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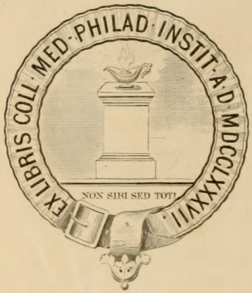

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REPORTED CASES.

CHRONIC BRIGHT'S DISEASE OF THE KIDNEYS.

Case of Mr.——, of Va., stated by Dr. G. Halstead Boyland, late Professor of Surgery, Baltimore Medical College; late Surgeon French Army (decorated); Member American Medical Association, Etc.

"Mr. —— suffered with *Chronic Bright's Disease* of the Kidneys. The urine contained twenty per cent. of Albumen, and was heavily loaded with casts. There were decided symptoms of *Uræmic Poisoning*, intense frontal headache, double vision, flushed countenance, general nervous irritability and distinctly marked Cerebral Hyperæmia. In this condition he was sent to the Buffalo Lithia Springs where he remained five weeks, drinking from eight to ten glasses per day of the water of the Spring No. 2. At the expiration of this time the amount of albumen was reduced to a minimum, no casts could be discovered, there was an entire disappearance of other distressing symptoms, and complete *restoration of the general* health."

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"I spent the summer of 1880 at the Buffalo Lithia Springs, and while there witnessed the marked beneficial action of this water in a case of *Bright's Disease of the Kidneys*. Mr. ——, the sufferer, reached the Springs in a condition of emaciation and extreme exhaustion. The urine was heavily charged with albumen, and its specific gravity decidedly below the healthy standard, with general *œdema* and *comatose* symptoms. In three weeks there was evident improvement, which continued during a stay of two months at the Springs, the urine becoming free from albumen, natural both in appearance and quantity, and regaining, to a great extent, a healthy density and a disappearance of the dropsical symptoms. In the meantime there was great improvement in the general health, the patient gaining some twenty-five pounds in weight, and leaving the Springs in a comfortable condition."

BRIGHT'S DISEASE OF THE KIDNEYS, COMPLICATED WITH A GOUTY DIATHESIS, STONE IN THE BLADDER, ETC.

Case of Mrs.——, stated by Dr. David E. Smith, of Bronxville, Westchester, N. Y.

"Mrs. —— was subject to severe attacks of *Gout*, a consequence of an inherited *Gouty Diathesis*, followed after some time by *Stone in the Bladder*. The limbs were very œdematous, so much so as to pit readily on pressure with the finger, leaving an indentation long after its removal. The urine was loaded with *Urates* and 25 *per cent. Albumen*, and the microscope revealed casts, showing unmistakably *Bright's Disease of the Kidneys*. I prescribed the Buffalo Lithia Water, Spring No. 2, which afforded prompt relief in the Gouty Affection, and resulted in a few weeks in the passage of a Stone, three-eighths of an inch long by one-quarter of an inch in diameter. Under the continued use of the water the Urine has been relieved of *Albuminous Impregnations*, and restored to a normal condition, no *Casts* can be discovered, the *Œdematous* condition of the limbs has been relieved, and the general health of the patient to a great extent restored."

BRIGHT'S DISEASE OF THE KIDNEYS, URÆMIC POISONING, ETC.

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ORIGINAL ARTICLES.

ARTICLE I.—ON THE TREATMENT OF URETHRAL STRICTURE BY COMBINING INTERNAL AND EXTERNAL URETHROTOMY. By REGINALD HARRISON, F. R. C. S., Surgeon to the Liverpool Royal Infirmary, Lecturer on Clinical Surgery in Victoria University, England; Fellow of the Royal Medical and Chirurgical Society, London.

I purpose in the following paper detailing the treatment of certain cases of stricture of the urethra, where, for reasons presently to be mentioned, the operations of internal and external urethrotomy were combined for a single purpose.

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It will be seen that the cases were of an exceptional nature, not permitting of treatment by dilatation and necessitating the adoption of other measures for their relief. In thus speaking apologetically for what was done, it is because I feel that, as matters at present stand, a person with a stricture had better employ dilatation in some form or other, so long as he can keep himself comfortable and the size of the urethra is not progressively diminishing. When a patient finds himself liable to sudden attacks of retention and other serious inconveniences, then it becomes necessary to seek other means of relief. With the views that at present prevail in reference to internal urethrotomy, there will be not a few who would probably, under the circumstances I have mentioned, urge the claims of this procedure. I must, however, in reference to the latter operation, express myself as differing materially from many other surgeons of large experience for whose opinions I entertain much respect. It is not my intention to convert these remarks into a criticism on internal urethrotomy; but, as I have been in the habit for a considerable number of years of carefully inquiring into the history and previous treatment of all stricture cases that have come under my care in hospital and private practice, I cannot refrain from noticing what appear to me to be the chief defects in this operation, and which in my judgment neutralize the advantages that are claimed for it. In the first place internal urethrotomy is extremely liable to be followed by a form of fever which is exceptional, unexplainable, and sometimes fatal. It is not the ordinary wound-fever of operations; it is generally ushered in with a rigor, and presents every degree both of mildness and severity. It is occasionally attended with suppression of urine, and it sometimes proves fatal in cases which seem well adapted for operation, and after death has taken place no satisfactory explanation as to its causation or pathology can be offered. In the second place, internal urethrotomy does not furnish better permanent results than other methods of treatment; some of the worst cases I have had to deal with have been those where the stricture has been divided from within. With important contingencies such as these to provide against, it is not surprising that some surgeons hesitate to adopt internal section other than under very exceptional circumstances. Still, on the other hand, it is impossible not to see that, so far as the operation is concerned, there is much to commend it on theoretical grounds.

On carefully considering the whole subject it seemed that if it were possible to assimilate the performance of internal urethrotomy with some other operations on the urinary organs, where there was an absence of any special form of fever or septic intoxication following them, and where the wounds inflicted did not heal with a scar-tissue which subsequently showed an inordinate disposition to contract, we might mitigate, if not entirely remove, the more prominent objections to internal urethrotomy to which I have referred.

If, for instance, we take the operation of lithotomy, or of perineal section, where the urethra is more or less involved in the wound, and where, at the same time, provision is made for the escape of urine from the bladder by the newly formed passage, we shall find both proceedings free from the subsequent occurrence of unexplainable rigors, and from the development of any special form of wound-fever. If the temperature charts are taken, say for instance of fifty cases each of lithotomy perineal section, and internal urethrotomy, we can then see whether such a statement is warranted and whatever the deductions therefrom may be. I cannot remember an unexplainable rigor following immediately upon a lithotomy, but in my experience of internal urethrotomy it has been frequent. In what lies the difference? To what use can it be directed in practice? Are the anatomical and physiological arrangements in the sex sufficient to account for its entire immunity from anything resembling urinary fever or intoxication as observed in the male, in all cases involving operative interference with the female urethra? Mr. Berkeley Hill thus speaks* of what he has observed as following upon the operation of internal urethrotomy:

"About three years ago I tied in a catheter in every alternate case in a series of thirty-eight urethrotomies, leaving the urethra unprotected from the urine in half the cases, without regard to the gravity or lightness of the case. On comparing the after-progress of these cases, I found that elevation of temperature and rigors occurred in both sets of cases, but far more frequently in the set where a catheter was not tied in. Though shivering was not invariable, a rise of temperature *always* took place where a catheter did not lead off the urine during the first twenty-four hours. This effect of the flow of urine over the wound is unmistakable. The temperature after the operation remains normal for as many hours as the patient refrains from micturition. But within half an hour after urine has flowed through the urethra, the thermometer shows unnatural heat; in some cases not rising above 100° F., and subsiding in five or six hours to a normal range. When the reaction is great enough to produce higher elevation of temperature and rigor, the amount of previous kidney degeneration is probably considerable, and the approach to danger is pretty close. In Mr. Davies's table, there are twenty cases where the temperature after incision of sub-pubic structures was noted hourly: in twelve, a cathetic was tied in; in eight it was omitted. In all of the eight the temperature rose in the first twenty-four hours, the lowest being 102° F., and the highest 106.6° F. Of the twelve where the catheter was tied in, in six the temperature remained normal throughout. In three others the temperature was normal until after the catheter had been removed. In the last three cases, notwithstanding the presence of the catheter, the temperature rose on the night of the operation to 100, 102, and 103 respectively, becoming normal the next day."

Again, though the urethra is cut with the knife, and is often torn or scraped during the extraction of rough stones with the forceps, I have never known, in a personal experience of something like one hundred cases of lithotomy in persons of all ages, a stricture of the urethra follow; but I have known within the category two instances where persons were permanently cured of bad strictures by an extension of the wound necessary for the removal of the stone.

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* British Medical Journal, Dec. 6, 1879.

A rupture of the urethra following upon a blow or contusion of the parts is generally regarded as exposing the patient to the almost certain risk of a stricture of the worst kind. This liability is, I believe from some experience of these injuries, largely influenced by the conditions under which the patient is placed immediately after the accident. In other words, the liability to urinary fever and to subsequent stricture is mainly determined by the line of treatment that is pursued. Let me take two examples: (1) Where the urethra was completely torn across, and (2) where the rupture was partial, and less heroic measures were, with the best intentions, resorted to.

Three years ago a middle-aged man fell on his perineum across a joist, and completely ruptured his urethra about the membranous portion. My house surgeon at the Infirmary could not pass a catheter. I saw the patient within an hour of his accident, had him placed under ether, managed to slip a staff in his bladder, and made him a free median perineal urethrotomy. Through this the whole of the urine was drained for several days. The patient made just as good and complete recovery as if he had undergone a median lithotomy. He has not a sign of stricture, nor is he now likely to have.

The second case: Five years ago a bus conductor was kicked on the perineum, and sustained a partial rupture of the urethra. A soft catheter, however, was introduced, and retained in the bladder for ten days, when he began to pass his urine naturally. During this period he had many variations in temperature which caused anxiety. He apparently made a good recovery. Twelve months afterwards he returned with a stricture of the worst kind. Instances such as the former, which are not exceptional, point to the conclusion that a traumatic stricture is by no means a necessary consequence of a ruptured urethra, and that the development of a contraction has a relation to the treatment that immediately followed the infliction of the lesion.

My own observations* on the point appear to correspond with those of Dr. Max Oberst, of Halle, who states † that if this injury is treated by a free outlet for the urine, and effusion from the internal wound, it need seldom excite serious apprehension; but if, on the other hand, it is not judiciously dealt with, it will, in many instances, not only threaten the life of the patient, but permanently impair the urethra. Further, it must be noted how unfavorable are the conditions for producing the best kind of repair which generally attend the operation of internal urethrotomy. The section which is necessary for the division of the contraction necessarily paralyzes the urethra to the extent, or rather more, of the wound that has been inflicted. Hence the process of repair has to be carried on with the wound soaked in the urine that is left behind to stagnate, and to undergo change after each act of micturition. This is a very different condition to the free flow of urine over the glazed and granulating open wound of a lithotomy or of a perineal section.

Amongst the most valuable contributions made to the surgery of the urinary

*Lectures on the Surgical Disorders of the Urinary Organs, pp. 167. 2dedition: Churchill, London.
†Volkmann's Sammlung Klin Vorträge: No. 210.

organs must be included the late Professor Syme's observations on the treatment of stricture by perineal section, a communication which may be regarded as the most important one we possess on the radical treatment of this affection. In it we have not only provision for the complete division of the stricture, but also for avoiding those contingencies to which I have referred as seriously interfering with the more general acceptance of internal urethrotomy. Amongst the few specimens I know of where there is evidence of a stricture having been permanently cured, is one that recently came under notice at the Royal Infirmary. It was of a patient who died of chronic Bright's disease in Dr. Davidson's ward this year. When sixteen years old he injured his perineum, and subsequently suffered from stricture and urinary fistula. In 1867 Mr. Bickersteth performed perineal section for him; in 1869 he was known to be quite well; and during his recent residence in the Infirmary Mr. Bickersteth took care to determine that the stricture had not returned, though no special precautions appear to have been taken by the patient during this long interval of time. After his death from renal causes the urethra was removed and carefully examined. No sign of stricture could be found; in fact, the calibre of the urethra along the line where the section had been made was larger than normal, a circumstance which seemed to indicate that the cicatrix had yielded somewhat under the pressure of micturition.

Though I have resorted to this method of treating strictures occasionally, it is clear that it is only applicable to those instances where it is possible to enclose the stricture within the limits of the incision. Strictures within the boundaries of the scrotum, or in the penile urethra, are beyond reach. A careful consideration of the various points to which I have already given prominence led me to conclude that it might be possible advantageously to combine the two operations of internal and external urethrotomy. In doing so, my object was to secure that the healing process following the division of the stricture should proceed without being subjected to those influences, immediate and remote, which I have ascribed to the presence of stagnant and decomposing urine. I desired to put in, as Gouley aptly describes it, "a cicatricial splice," which should be formed under circumstances most favorable to the kindly repair. How this was to be done will best be understood by a perusal of the cases I will now relate. The first case which served to lead up to the development of this process is as follows:

J. McL., æt. thirty-six, came under notice at the Royal Infirmary in May, 1884, with a tight bulbous stricture. Fourteen years previously internal urethrotomy had been performed; with care he kept well until the last twelve months, when, by neglect, the stricture returned. It was a dense, hard one, and would not yield to dilatation. On June 6 I performed Holt's operation with a smaller divulser than usually employed, and then passed a full-sized bougie into the bladder. There was much febrile excitement afterwards, and on the 10th a considerable perineal tumefaction could be felt. The patient's condition was such as to cause some anxiety. With the view of averting abscess, and possibly extravasation of urine, on the 11th I passed a large, grooved staff, opened the perineum, and introduced a drainage-tube into the bladder. The point where the urethra was opened was just behind the stricture that had been divulsed. The patient made a good recovery; and when he was last seen, some months after the operation, a No. 10 English bougie passed easily. This case is merely introduced as being a suggestive one in connection with others that followed. It pointed to the local and general advantages that immediately followed upon the complete withdrawal of the urine from contact with the divulsed portion of the urethra.*

J. C., æt. forty-five, was admitted on July 2, 1884, with a tight bulbo-membranous stricture, perineal fistule, and a chronic orchitis. On July 9 I succeeded in passing through the stricture a No. 2 English bougie. In the evening he had a severe rigor and was feverish. On July 11 I divided a long stricture with Maissoneuve's urethrotome. I then placed the patient in the lithotomy position, passed a grooved staff, opened the membranous urethra, and inserted a drainage tube into the bladder. No rigor or fever followed, and the urine drained clear of the stricture. Twice a day the urethra was washed out from the external meatus with an antiseptic fluid which escaped by the perineal wound. After the drainage tube was withdrawn the perineal wound closed, and the patient left the Infirmary on August 15 with a sound urethra, admitting the largest-sized bougie.

P. McQ., æt. forty-five, was admitted on June 10, 1884. He had a urethra which was impervious immediately behind the scrotum, and several urinary fistules in various directions, through which urine and pus percolated. The first thing done was to make him a urethra, or rather a direct way into his bladder. In seventeen days I succeeded in doing this by taking a line with a small metallic bougie, which I thought as nearly as possible corresponded with the original passage; along this I passed a urethrotome, and made him a canal which could admit a good-sized staff; then on this I did him, as in the previous cases, a perineal urethrotomy for drainage. The new urethra was frequently washed out from the external meatus as before, with the result that by August 16 all the fistules but one had closed, and the patient returned home urinating normally, and with a full-sized urethra.

E. C., aged twenty-five, was admitted in January, 1885. The patient had a tight stricture immediately in front of the scrotum, and a urinary fistula with indurated edges, through which urine passed; by the urethra the patient voided his urine in drops. On January 16 I divided the stricture with a Watson's urethrotome; I then pared the edges of the fistula and closed it with silver wire. A perineal urethrotomy was next performed, and a drainage tube passed into the bladder. It is not necessary to follow the case throughout. On February 21

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*In a recent communication Professor Bonchard (Toxic Normal Urine, *British Medical Journal*, June 6, 1885) has drawn attention to the poisonous effects that may be produced by normal urine, when injected into the blood even in small quantities. It seems possible, from these investigations, that alkaloids may be generated in the urine, and that thus some of the pyrexial effects following wounds of the urethra to which I have referred are explainable.

he was discharged well, his fistula and urethrotomy wound being both closed. He has been seen once since, when no sign of stricture could be discovered.

W. C., æt. thirty-nine, was admitted on January 2, 1885, with the history of a stricture extending over twelve years. He appears to have undergone Holt's operation for stricture some years previously. In addition, he had a suppurative orchitis which required opening. The principal stricture was a long and cicatricial one, such as is generally seen when the operation of rupture or divulsion of a stricture from any cause has proved a failure. It took me some time before I could dilate the stricture sufficiently to introduce a urethrotome. On February 6 I divided both strictures internally; in doing so, the longer anterior stricture was so hard that the instrument failed at first to accomplish it; I therefore had to re-introduce it and cut it more freely to satisfy myself that every point of constriction along the whole length of this very distorted urethra had been removed. I introduced Gross's urethral dilator, and, having somewhat separated the bladder, after the instrument had been passed into the bladder, I introduced it; I thus satisfied myself that every source of stricture had been removed. In doubtful cases, after internal urethrotomy I have thus used Gross's dilator with advantage: to operate and to leave a single band of contracted tissue, however slight, is to leave behind a cause for the development of another stricture. After I had satisfied myself in this manner, I passed a full-sized staff and opened the membranous urethra for the introduction of the drainage tube. The progress of this case was somewhat delayed; in the first place the internal urethral incision had been so free that some blood clots were retained in the anterior section of the canal and suppurated; it was necessary to make a median anti-scrotal incision to give exit to this discharge. I have since provided against the latter contingency by introducing a piece of drainage tube, when I think it is necessary, through the external meatus and bringing it out through the perineal wound; it prevents drainage from this point of the canal and is also convenient for washing out. In this way the urethrotomy wound can be made to heal without contact either with urine or the retained products of the healing process.

To continue with my case: In addition to the drawback which led to this digression the patient had a tolerably sharp attack of bronchitis. The perineal drainage tube was finally withdrawn on March 19, by which time the cicatricial splice was sound, and a full-sized instrument could be passed into the bladder. On April 23 the patient was discharged well. On May 11 he presented himself for examination. Both wounds were healed; he was urinating, as he stated, in a full stream for the first time in his life, and a large bougie passed easily. What pleased me most was to find the steady improvement that had taken place in the tissues of the urethra. Instead of being harsh and unyielding, they had become almost as soft and pliant as in the normal state. This was obvious both from within and without.

Sufficient illustrations have now been given of a method of operating which has so far justified my expectations. I shall, in conclusion, proceed to notice some points which these as well as other cases of a similar nature suggest.

Though it would be premature to speak of the combination of these two methods of operating as affording a means of radically curing uretheral stricture, there is much encouragement for such a hope in what has already been observed. I have now operated in this way ten times, and though this number is not large, yet it includes some of the worst and most unpromising types of the disorder.

In the first place, it has been uniformly observed that after the double operation we have never had a rigor nor the development of that special form of fever which follows internal urethrotomy, and is occasionally fatal, without forecast or explanation. If there has been any febrile excitement it has not been of an exceptional kind, but has been explainable by the common incidents of surgical practice; for instance, by the retention of pus in a disused perineal fistula or sinus.

In the next place, we have been able to put into the urethra, at the point required and to the extent necessary, a cicatricial splice or interval of new tissue, formed without contact with urine or other source of irritation. Whilst this was in progress not only has the urethra been at rest, but it has been kept thoroughly clean and antiseptic.

We have already had evidence as to the different character of the scar-tissue which is produced by this process, compared with that which follows internal urethrotomy where no special provision is taken to prevent the contact of urine and discharge with the healing wound. It is not difficult to imagine that the cicatrices in the two instances must differ essentially.

One word before I finish, in reference to the kind of external urethrotomy that is performed. To speak of it as a perineal section is to convey a wrong impression. It should be described as a perineal puncture with a knife, completed with a probe, along which a drainage tube is passed into the bladder, the process occupying a couple of minutes or thereabouts. It is not necessary to push the finger into the bladder at all; in fact, it should be avoided; it may cause a prostatitis.

I operate in the following manner: The patient being placed in the lithotomy position, and a grooved staff of full size passed (the urethra having previously been freed from all stricture by internal urethrotomy), the membranous urethra is opened with a long finger knife one inch in front of the anus, the back of the knife being towards the rectum; the incision is slightly enlarged forwards, so as to permit the introduction of the index finger. If the staff is found exposed at the bottom of the wound, as it will often be, all well and good; if not, I re-introduce along my finger a somewhat blunted though pointed knife, with which I clear away anything that may intervene between the tip of my knife and the grooved staff. If a sharp knife is used for the latter purpose, either the perineal wound is made unnecessarily large, or the operator's index finger may be wounded. The plan of the incision is first to make it fit the finger, and afterwards the drainage tube; if this is done tolerably accurately there is practically no hemorrhage. When the groove in the staff is felt Wheelhouse's probe-pointed gorget is slid along it into the bladder; the staff is then withdrawn, and the drainage tube passed along the upper concave surface of the gorget into its place.

I use a stiff gum elastic drainage tube about five inches in length, which is secured in the wound, and to which is attached a long piece of rubber tubing for the conveyance of the urine into a receptacle beside the patient's bed. These tubes may be changed as often as necessary. When there are any saccules or irregularities in the floor of the bladder, as in cases of old standing stricture, a double drainage tube is used—that is to say, a soft rubber catheter is passed through the outer gum elastic tube into the bladder; by this means the most effectual drainage can be secured. Why persons should have so frequently an exceptional form of fever after internal urethrotomy, and why wounds of the urethra should so often be followed by the formation of an unusual kind of scar-tissue, are points worthy of most careful inquiry, for it may be truly said that much of the future surgery of the urinary organs depends upon the more complete elucidation of these two questions. If this paper contributes towards the consideration of these two points its primary object will be attained.

ARTICLE II.—SOME POINTS IN THE SURGERY OF THE HYPERTROPHIED PROSTATE,* BY JOHN W. S. GOULEY, M.D., SURGEON TO BELLEVUE HOSPITAL, NEW YORK.

Since the time of Sir Everard Home, the advances that have been made in our knowledge of the anatomy, pathology, and surgery of the prostate, are due mainly to the indefatigable industry and the genius of the late Dr. Mercier, of Paris, who began his labors in 1836, and afterwards published their results in a series of volumes with the modest title of researches, etc., on diseases of the urinary organs of elderly men. These works bear the stamp of consummate ability and literary acumen, and honest, diligent research. They are vast treasures of anatomical and surgical knowledge of the subjects which they treat, and require to be carefully and patiently studied, not casually read. Those interested in the study of the infirmities of old age will almost always find in them something suggestive or likely to shed light on a doubtful point.

Until about five years ago Dr. Mercier was actively engaged in study and in professional work, but bodily infirmities together with advanced years have put an end to his labors, which, fortunately for the profession and for the aged, are so faithfully and honestly recorded in the treatises which he has bequeathed to the profession. There is little to be added to the principles he has inculcated; and many procedures which may seem new are in reality only modifications of his devices.

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* Read before the American Surgical Association April 23, 1885.

The importance of thoroughly studying the pathology and therapy of the hypertrophied prostate will be fully realized if the conclusion of Mr. Messer, of London, is accepted ; i. e., that thirty per centum of men upwards of fifty-five years of age are affected with enlargement of the prostate, although he also says that only one in seven of those so affected suffers in consequence. Mr. Messer has probably underestimated the number who really suffer some inconvenience in urination. It is, however, a fact of no little interest and practical importance that even when enlargement of the prostate causes stagnation of urine in the bladder, the patient's life is not, on that account, materially shortened if the catheter be properly, persistently, and systematically used as soon as indicated. But the omission of this precaution is invariably followed by the most disastrous consequences.

The particular points in the management of cases of senile hypertrophy of the prostate and its consequences which I have the honor to suggest for discussion relate to

- A.—Physical exploration
  - a. Digital examination per rectum.
  - b. Urethro-vesical exploration with catheters and sounds.
- B.—Medical treatment.
- C.—Surgical treatment.
  - 1. By mechanical means
    - c. Evacuative catheterism.
    - d. Irrigations to relieve cystitis.
  - 2. By operation
    - e. Prostatotomy, internal and external.
    - f. Prostatectomy, internal and external.

A.—Physical Exploration.

a. By digital examination per rectum some estimate of the size and consistency of the prostate can be formed and it is possible to ascertain if this body is harder or softer than normal, if one lobe is larger than the other, if it is nodulated or smooth and uniformly enlarged, if its apex is obtuse instead of being insensibly lost in the membranous portion of the urethra or if there is longitudinal increase. This is all that can be learned by digital examination which is only the first step toward complete physical exploration. Many decide at once upon a case without carrying the examination farther, and are thereby misled and deceived, for it often happens that no enlargement is detected by rectal examination when there exists sufficient urethro-vesical obstruction to cause stagnation and finally complete retention of urine. Therefore the surgeon should never place his entire reliance upon rectal examination.

b. The next step in the physical examination of a case of suspected prostatic hypertrophy is to ask the patient to stand up and urinate ; if he can urinate spontaneously, the character of the jet of urine will aid to a certain extent in the diagnosis, but it is to be borne in mind that a man who has no prostatic hypertrophy, but contracture of the vesico-urethral sphincter, urinates precisely in the same way as he with enlarged prostate, i. e., in a small, weak, and perpendicular stream, suddenly interrupted and soon followed by a succession of drops, perhaps twenty or thirty, to begin again, and to be again followed by the dribbling or even slobbering until two or three ounces of urine may be collected in a vessel, without which the patient surely soils his garments or wets his shoes. But the digital exploration per rectum may have cleared the doubt, for general hypertrophy may have been detected.

When the patient has passed all the urine he can void spontaneously, a soft catheter is introduced, and the residual urine drawn off, measured and inspected. It may be clear or turbid. The turbidity may be owing to the presence of gravelly substance, of pus, or of both. Such purulent urine indicates cystitis; ammoniacal, slimy urine, decomposition of the pus, which proves that the urine has been stagnant for a considerable time. This condition is improperly called catarrh of the bladder. Fetid, slimy, chocolate-colored urine indicates that hemorrhage has occurred, and that the cystitis is in an advanced stage.

Residual or stagnant urine in the bladder is then another link in the chain of evidence of prostatic obstruction.

The physical exploration is, however, further carried on by the use of certain rectangular metallic catheters and sounds (instruments of ordinary curve, possessing no value whatever for purposes of diagnosis and being even dangerous), with a view of determining the situation, size, or form of the obstruction. To Dr. Mercier belongs the credit of suggesting and first employing the short-beaked, rectangular catheters and sounds for exploring the prostate and bladder, as well as for evacuative catheterism in retention of urine. He may have taken his cue from Benjamin Bell, who had used a slightly angular bougie in cases of eccentric urethral strictures. The advantages of the rectangular beak over all others for the uses to which it is applied are: 1. The extremity of the short beak (which is seven-eighths of an inch in length) is constantly in contact with the upper urethral wall in the prostatic portion. 2. The blunted heel comes in contact with the obstruction, and overrides it easily, while in the case of the long curved instrument the point is presented to the obstacle. 3. The beak can be rotated with the greatest facility when it has entered the bladder, and serves at the same time as a stone searcher and as the means of detecting induration and hypertrophy of the bladder. Thus, by the aid of the rectangular sound, it is possible to diagnosticate intra-urethral hypertrophy of either lobe of the prostate—the deflection of the handle of the instrument indicating the affected side—longitudinal hypertrophy, intra-vesical hypertrophy of one or both lobes, supramontanal hypertrophy, whether as a crescentic valvule, as a bar, or as a sessile or a pedunculated tumor or tumors. Dr. Mercier has sometimes been able to determine the size of such tumors.

A few years ago it occurred to me that an instrument of still greater precision might be constructed. I accordingly devised a cysto-pylometer, by the aid of which I have been able to measure accurately the thickness of crescentic valvules and of urethro-vesical "bars."

The beak of this instrument is nearly rectangular, and one inch in length. The shaft is in two longitudinal segments, the male segment sliding over the female, and being flat at its vesical end to come in contact with a correspondingly flat surface on the inner side of the beak, and designed to grasp the valvule or the bar. The reverse of the flattened, hollow, and quadrilateral handle is graded in centimetres and millimetres, and the indicator is screwed to the shaft of the male blade. The pylometer can be used at the same time as a stone searcher.

B.—*Medical Treatment.*

The idea that certain medicinal agents, taken by mouth or otherwise, can reduce the enlarged prostrate, though long since exploded, is from time to time revived on account of the supposed discovery of some infallible remedy. To "cure" prostatic hypertrophy, all the most likely drugs in and out of the pharmacopœia have been exhausted in vain. Thousands of sufferers have been deluged with innumerable natural and artificial mineral waters with the very worst results. Others who have taken the waters in small or moderate quantities have, though indirectly, suffered seriously on account of having omitted the essential and rational treatment of their complaint, and of using the waters exclusively under the erroneous impression that they possess curative powers.

A few years ago it was the fashion to inject into the substance of the prostate solutions of ergotin, iodine, and of other irritants. Abscesses and their consequences were often the only rewards of these experiments.

Electricity, applied through the urethra or rectum, has had its day, and has also been found wanting, and often positively harmful.

This catalogue of therapeutic agents might be lengthened almost indefinitely, and give the same history concerning results as that which precedes and which leads to the conclusion that medicinal treatment is of no use whatever, and is delusive, and therefore injurious when employed with a view to reduce hypertrophy of the prostate. But when it is applied to relieve some of the consequences of prostatic obstruction to urination, to combat concomitant affections, and to improve general health, it is, in all three particulars, of great value in conjunction with the surgical treatment.

The principal concomitant affections, complications, and sequelæ which the surgeon is called upon to treat medicinally are dyspepsia, lithuria, costiveness, constipation, sciatica and other neuroses, ultheral fever, cystitis, pyelitis, pyelonephritis, polyuria, oliguria, anuria. The details of medicinal treatment need not here be given.

C.—*Surgical Treatment.*

The surgical treatment of prostatic hypertrophy and its consequences may, with propriety, be divided into two distinct parts. First, that which relates to the mechanical means of relief of obstructed urination and its first consequence, cystitis; second, that which relates to the removal of the obstruction by operation.

1. *Mechanical Means of Relief.*—Before proceeding to discuss the mechanical means of relief, permit me to say a word about catheters, and first let me

urge that all rigid catheters be discarded, except in cases of false routes, where Hey's and Mercier's methods are clearly indicated. The promiscuous and careless use of rigid instruments, whether metallic or non-metallic, is almost certain to lead to the infliction of wounds in the urethra, either at the bulbo-membranous region or in the prostatic sinus, and these rents soon after may be converted into troublesome false routes, which often render further catheterism of the bladder impossible, and place the patient's life in great jeopardy. Even when used with the greatest caution these catheters frequently do much mischief.

Among the flexible instruments now in use may be mentioned the soft vulcanized India rubber catheters, the olivary and curved gum catheters, and the elbowed and double-elbowed catheters of Mercier. The various deformations of the diseased prostate will suggest the kind of catheters to be used. Thus, for instance, in the case of moderate supra-montanal hypertrophy, the curved gum catheter will answer, but a greater degree of the same hypertrophy will require the elbowed or even double-elbowed catheter. Intra-urethral deformation, causing tortuosity of the urethra will indicate the use of the olivary catheter, or of the soft India rubber catheter, while great longitudinal hypertrophy or the presence of a large tumor in the supra-montanal region will render necessary the employment of an extra long catheter. Each catheter is best for the case in which it is indicated, and no particular instrument can be used with equal safety or success in all cases.

With your permission I shall make a few quotations from a paper on chronic retention of urine in elderly men, which I read before the Kings County (N. Y.) Medical Society in 1882.

"I am sometimes asked what is the proper catheter, what kind of catheter should be used by those who cannot urinate owing to a urethro-vesical obstruction. My answer is invariably that no one kind of catheter is THE catheter. The same catheter will not suit all cases any more than the same glove will fit all hands." . . . "Let me express my own convictions as to the catheters the use of which should in general be avoided. All metallic and very rigid non-metallic catheters or soft catheters armed with stylets, should not be used under ordinary circumstances. If such instruments had never been employed to relieve retention of urine from prostatic enlargement, cases complicated with false passages, now so common, would be of extreme rarity. I have never owned what is usually called a silver prostatic catheter, nor have I ever seen a case which I could regard as requiring such an instrument. The difficulties which arise from catheterism with metallic or rigid non-metallic instruments are encountered : 1. At or near the bulbo-membranous junction of the urethra from an inordinately deep sinus of the bulb, undue force causing the point of the catheter to perforate the mucous membrane and enter the spongy tissue, or to plough its way between the membranous urethra and rectum and sometimes even enter the intestine. This accident makes itself manifest by a more or less copious urethrorrhagia. 2. In the sinus of the prostate. This latter impediment is formed by a urethro-vesical barrier, causing a deep pouch in the prostatic sinus. In this case the same undue force may give rise to a longitudinal rent on one side or the other of the floor of the prostatic sinus, extending to or into the barrier, or else the point of the catheter penetrates and sometimes transfixes the barrier at its center. Such serious injuries are not generally inflicted with soft non-metallic instruments, though when their eyes are improperly constructed they cause considerable irritation and even erosion of the mucous membrane. Therefore, one of the prime requisites of a good catheter is an eye as small as practicable, with perfectly smooth, rounded edges. It should never have two eyes. The size of the catheter is also worthy of consideration. Nearly all those who practice auto-catheterism have a predilection for small catheters, such as Nos. 4, 5, 6 English. This is a grave error. The catheter should seldom be under No. 9, which, though it may be pliable, retains a certain degree of firmness and can be much better managed. If it seems too large the surgeon should dilate the urethra. Indeed, it is an excellent practice every few months to put the patient's urethra through a short course of dilatation to No. 13 or 14, if a No. 9 is afterwards to be used, as this canal will contract from inflammation induced by the five or six daily catheterisms when these have been continued for months or years. In this condition of stenosis the introduction of the small catheter will become more and more difficult, if not impossible, and will cause hemorrhage and other mischief. In cases where false routes have been made I have advised the use of catheters as large as No. 15 English, which the patients are now introducing with the greatest ease, while before they had constantly failed with smaller instruments. Of course, in giving such advice the surgeon must be guided by the normal size of each patient's urethra."

When catheterism is to be intrusted to inexperienced persons, to nurses, or to the patients themselves, the soft vulcanized India rubber instruments are unquestionably the safest, but when they fail it is not wise to leave other catheters in their hands until they have been taught how to use them, and are made aware of the dangers attendant upon careless or rough manipulations.

In cases where ordinary catheterism has been impracticable, owing to very large supra-montanal tumors, or to false routes, I have often known *Hey's method to succeed; but when this fails, in the case of false routes, the invaginated catheter of Mercier is almost certain to be successful.

On five or six occasions, having entered the bladder with the male part of the invaginated catheter, I gradually and cautiously pushed together onward into the bladder both the male and the female portions of the catheter, and thus made free and complete divulsion of the false route, and gained almost as much as by an internal prostatotomy, and the patients have been able to urinate spontaneously, and empty their bladders. The after-treatment was the same as that employed in internal prostatotomy.

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*Dr. Dorsey claims priority for Dr. Physic over Mr. Heyin this method of catheterism. See Dorsey's "Surgery," page 161.

Evacuative catheterism cannot be employed too soon in the management of prostatic obstruction. In ordinary cases it is an easy process attended with immediate relief, and can be repeated daily once, twice, or oftener, according to the requirements of the case. But there are cases where it would be most unwise in the surgeon and often fatal to the patient to withdraw all the urine retained in the bladder at one sitting without taking certain steps which I shall presently describe. But before doing so I should like to give, on this subject, the views of a great master. In his "Lectures on the Diseases of the Urinary Organs," second edition, London, 1835, pp. 159, 160, Sir Benjamin Brodie says: "However necessary it may be in all cases, there are some in which much discretion is required in resorting to the use of the catheter. . . . If, in a case of chronic enlargement of the prostate, the patient has been allowed to go on for two or three years, or longer, without the use of the catheter, and, in consequence of this neglect, the quantity of residuary urine in the bladder has gradually increased, so that at last one or two or more pints are accumulated in it, the kidneys having at the same time become diseased, the introduction of the catheter, according to the rules formerly laid down, so as to empty the bladder two or three times daily, is likely to be injurious rather than beneficial. The patient is, it is true, relieved of many of his distressing symptoms. He is no longer tormented by a frequent desire to void a small quantity of urine, nor by an involuntary dribbling of urine during the night, nor does he suffer the uneasy sensation which, in a greater or less degree, always attends an over-distended bladder; but, in the course of a few days, it is observed that he avoids his usual exertion, that he seems languid, and loses his disposition to take food. Then the other symptoms of disease of the kidney, which were but imperfectly developed before, become distinctly marked, and he gradually sinks, and dies at the end of a month or six weeks from the time of the catheter being first employed." He then draws a parallel between this and "the consequences of the operation of lithotomy performed on a person who labors under any considerable disease of the kidneys. "At first he is greatly relieved, and often seems to recover rapidly from the effects of the operation; but, in the course of a few days, his bodily powers begin to fail, and death ensues at no distant period, and this happens even where the stone has been of a small size, extracted in the shortest possible space of time, and with the least possible injury to the parts concerned. The resemblance between the effects produced by the use of the catheter, in the way, and under the circumstances which I have just endeavored to describe, and those which follow the operation of lithotomy in a patient similarly circumstanced, is too obvious to be overlooked, and I conclude that they are to be referred to a common principle. The system suffers from the shock of the operation, in one case, and in the other case it suffers in the same manner from the impression made on it by the sudden emptying of the over-extended bladder, and consequent removal of the pressure which is made through the medium of the dilated ureters on the glandular structure of the kidneys. Here, then, arises an important practical question. The patient has no chance of recovery without the use of the catheter. Are we to leave him to his fate, or are we to empty his bladder at certain intervals, at the risk of hastening the period of his dissolution? I have no doubt that we may, in many instances at least, obtain the good and avoid the evil by a slight modification of the treatment. Let the catheter be introduced at first so as to draw off only a portion of the contents of the bladder, and let several days elapse before it is completely emptied."

To further illustrate the ill effects of suddenly emptying the over-distended bladder, let me cite a most interesting case of chronic retention of urine, of at least three years' standing, in which no diagnosis was made until the bladder was accidentally punctured. The patient was a man of slight build naturally, but had of late become somewhat emaciated. He was seventy years old. I saw him in 1879, in consultation with a medical gentleman of New York, who gave me substantially the following account of the case.

"The patient had, three years before, noticed a marked protuberance in the hypogastric region, which he had ascribed to constipation, although he urinated with increased frequency during the day, and several times at night. The real difficulty, he thought, was the constipation, for which, and for the peculiar swelling of the belly, he had consulted several physicians. He had been under the care of the physician with whom I saw him for about twelve days. The doctor, finding fluctuation, thought the disease cancerous or hydatid, and this opinion was concurred in by a senior practitioner. The attending physician feeling a little more secure on the side of hydatid cysts, on the fourth day made a puncture, two inches below the umbilicus, with a small trocar, and aspirated nine and a half pints of a light-colored fluid, some of which he took home, expecting to find in it the characteristic hooklets, but instead he found crystals of uric acid, pus, and vesical epthelium. This fluid was urine and the trocar had entered the bladder, which had risen high above the umbilicus, and had projected so far forward as to resemble a morbid outgrowth. The catheter was not resorted to until twenty hours after this sudden aspiration of the contents of the distended bladder, then four and a half pints of bloody urine came away. Polyuria had supervened, and still the catheter was introduced but once every twelve hours, each time drawing off four and a half pints for four days, when the quantity of urine began to decrease. When I saw the patient I advised that catheterism be resorted to every six hours, but his condition was such that I gave a bad prognosis, expressing the opinion that he had but a few weeks to live. My diagnosis was chronic retention of urine from bi-lateral and supra-montanal hypertrophy of the prostate. He died in the course of a couple of weeks, and I was invited to the autopsy. The only diseased organs were the genito-urinary, from the prostate to the kidneys."

In another case the polyuria (without glycosuria) amounted to twenty-seven pints in twenty-seven consecutive hours. Another grave consequence of the sudden evacuation of the distended bladder is cystorrhagia, which is often followed by general cystitis and pyelo-nephritis.

To completely relieve a bladder from a great accumulation of stale, putrid, purulent urine at one sitting and at the same time avert the calamities mentioned above, I suggested ten years ago the adoption of the following plan:

Let us suppose a case in which the bladder is distended so that its fundus rises above the level of the umbilicus. A catheter is introduced and one pint of urine is slowly drawn off. Immediately half a pint of warm borax solution—two grains to the ounce, with five minims of wintergreen essence and ten minims of glycerine to the ounce—is thrown in, then another pint of urine is allowed to escape through the catheter, and half a pint more of the borax solution is injected. There is already one pint less of fluid in this bladder, and what remains is mixed with a disinfectant. After this, for every half pint of diluted urine drawn off, half a pint of the borax solution is injected until the fluid that escapes from the catheter is perfectly clear. Once every four hours afterwards half a pint or a little more of the clearer contents is removed, until the bladder is entirely empty, which may take several days or more than a week.

Since cystitis is almost certain to be developed as a consequence of stagnation of urine, and since it is known by experience that the sudden evacuation of the distended bladder greatly aggravates this existing inflammation, which is not completely relieved by gradual evacuation, but still lingers to cause rapid decomposition of the urine, and later perhaps phosphatic stone, it is absolutely necessary to combat it vigorously and continuously in order to obtain over it some control. An absolute cure of the chronic cystitis accompanying prostatic hypertrophy has not yet been, and will not be, accomplished until it shall be possible to restore the urethro-vesical orifice to its normal state.

I have said nothing of the medicinal treatment of cystitis for reasons already given, but should like to make a few comments on its treatment by irrigation.

Vesical injections are used for the purpose of simply cleansing the bladder, of decomposing phosphatic concretions, of dilating contractured bladders, or of applying certain agents to stimulate, modify, or soothe the mucous membrane.

For cleansing, warm water, with the addition of a few drops of essence of wintergreen to deodorize—but any other essence will answer the purpose—is often all that is required; the density of the water to be injected is sometimes increased by dissolving in it a small proportion of chloride of sodium, or chlorate or permanganate of potash. Phenic acid has been largely used in such cases, in solutions of various strength for the purpose of cleansing the bladder, but I fail to see in it any advantage over some of the other alcohols, and its disagreeable odor and irritating qualities render it objectionable. When the urine is highly alkaline, the cleansing fluid may be mildly acidulated with nitric, hydrochloric, or phosphoric acid. When the urine is purulent and slimy the biborate of soda or boracic acid, two grains to the ounce of warm water, seldom fails to be beneficial. After a few weeks' use of the former I have sometimes substituted the latter.

Such irrigations may be used once, or, at the most, twice daily, and not more than half a pint at each sitting, throwing in two or three ounces at a time. Much good may be expected by the prudent use of irrigations. They are, not unfrequently, used to excess, and this abuse of such an excellent remedy only results in disaster, especially when the fluid employed is of low density. In that case the mucous membrane becomes water-logged, its ephithelium is destroyed and the cystitis is rendered utterly unmanageable.

When phosphatic concretions have formed as a result of stagnation of urine, they may be decomposed by hydrochloric acid, two minims to the ounce of warm water, slowly injected into the bladder. If this is well tolerated, it may be used once every second day, or even every day. The quantity of fluid used should rarely exceed half a pint at each sitting, but not more than two or three ounces should be injected at a time. Another agent, which I have found very efficient in several cases, is the acetate of lead solution, one grain to the ounce of warm water, acidulated with acetic acid as recommended by Doctor Hoskins, of Guernsey. In one case I increased the solution to three grains to the ounce, and used one pint at each sitting for thirty consecutive days, and completely freed the bladder from phosphatic concretions, which had caused much discomfort, and there was no recurrence of the trouble. In another case the strength of the solution was increased to seven grains to the ounce and was well tolerated by the bladder. However, as a general rule, I think it safer to adhere to the weak solutions of Doctor Hoskins.

Fortunately contracture of the bladder with diminution of its capacity is a rare complication of cystitis in prostatic hypertrophy, but when this occurs measures must be promptly taken to dilate the viscus to its normal capacity, otherwise the short life of the sufferer is rendered intolerable by the almost constant desire to urinate. A very excellent method by which this desired end may be attained, is slow, gradual hydraulic dilatation (sudden dilatation is very unsafe and generally unsuccessful). This is accomplished by injecting warm water to the point of tolerance, then, a few seconds after, by adding a very small quantity, perhaps not more than a drachm. The amount is slightly increased from day to day until, from half an ounce, which may have been the maximum quantity retained at first, in two or three weeks the capacity of the bladder is increased to eight, ten, or twelve ounces. This method was much employed many years ago by Civiale and others. I have resorted to it in a considerable number of cases with very good results.

The sulphate of quinia in solution has been greatly vaunted as a vesical irrigation to combat cystitis. In very weak solutions, that are tolerated by the bladder, it is inert, while in solutions of two, or even of one grain to the ounce, it over-stimulates and irritates the mucous membrane. Such, at least, has been my experience. The fashion was of short duration.

As a modifier of the vesical mucous membrane nitrate of silver occupies the first rank; only, however, when the urine is of acid reaction. When the urine is persistently alkaline, this salt, even in very weak solution, is not tolerated, and should not be used. In certain cases of inordinate sensitiveness of the prostatic urethra and urethro-vesical orifice, the injection of an ounce or two of nitrate of silver solution, one grain to the ounce, is of great service, and its repetition once every third or fourth day for a couple of weeks renders catheterism much easier to the surgeon, and almost painless to the patient. In some other cases I have begun with very weak solutions (one tenth of a grain to the ounce), and gradually increased the strength to two grains, seldom more, to the ounce. In these cases I have thrown into the bladder four ounces of the solution, making one such injection at each sitting.

I take this occasion to protest once more against the practice of filling the bladder with nitrate of silver solutions of twenty to thirty grains to the ounce, because this practice is still resorted to, though, I am glad to say, very exceptionally. From careful analysis of a number of cases in which this salt had been used in strong solutions, I am convinced that it should never, under any circumstances, be so employed in the treatment of cystitis.

To render catheterism less painful in cases of great irritability of the urethra and bladder, solutions of sundry substances are thereinto injected, or introduced into the rectum, such as morphia, atrophia, hyoscgamus, and more recently cocaine hydrochlorate. I have employed it in one case with some advantage.* Mr. Harrison, of Liverpool, has suggested the use of some of these alkaloids, in small pessaries or suppositories, made of cacao butter, to be placed in the urethra or bladder, by means of a specially constructed catheter. He also advises vesical injections of water at 100 to 120 degrees F. to soothe the bladder, allay spasm, etc. The other extreme is resorted to by Dr. Cazenave, of Bordeaux, who strongly advocates the free use of ice in the rectum to make catheterism possible where it had before failed.

I have resorted to both of these methods in selected cases with equally good effect.

Prostatic obstruction, as it progresses, often becomes complete, and not a drop of urine flows spontaneously. In such cases the use of the catheter is repeated four, five, or six times daily, and, however much care patients may take who catheterize themselves so frequently, they, sooner or later, suffer from sub-acute urethritis and are annoyed by considerable pain in using the instrument, and by a constant purulent discharge which necessitates astringent urethral irrigations to check the discharge, and at the same time blunt the sensitiveness of the mucous membrane, and also to wash out from the prostatic sinus plugs of muco-pus which for hours give rise to a constant desire to urinate.

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* Cocaine hydrochlorate, a most valuable local anæsthetic when properly used, is now the rage, and like most newly discovered remedies is, in my belief, used too recklessly and excessively. However, experience will indicate the real capabilities of this analgesic. At present among the uses to which it is put is that of rendering the urethra insensible to the pain of catheterism. This surely will sometimes lead to evil, for it is not always wise to abolish the sensibility of the urethra, which sensibility is often so valuable a guide in difficult catheterism. Therefore it is more rational to lessen abnormal sensibility than to abolish all local sensation, and the surgeon cannot be too circumspect in the employment of substances that tend to abolish urethral pain in catheterism ; he should be content to simply lessen the pain.

Cocaine hydrochlorate in solution has lately been used as a vesical injection to render lithotripsy painless. Time and further experience will settle the question of the advisability of continuing its use for that purpose.

Owing to the irritation of the necessarily frequent catheterism, these patients are, from time to time, seized with the most painful orchitis, but it is impossible to lay aside the catheter. In some cases I have been able to relieve the pain and cut short the inflammatory process by the application of half a dozen leeches at the lower portion of the inguinal region immediately over the spermatic cord, and by the application of a small opium poultice over the leech bites, enveloping the testicle with a warm slippery-elm and tobacco poultice, besides giving a large opiate by mouth. In other cases I have been obliged to resort to multiple capillary punctures to give issue to serous accumulation before relief came. In a few cases I have found it necessary, after some weeks, to open abscesses of the testicle.

2. e. f..—*Prostatotomy and Prostatectomy.*—Before speaking of the operations of prostatotomy and prostatectomy and of the instruments required for their performance, it may be interesting to briefly sketch the sundry devices which have led to their adoption.

Prostatic hypertrophy was looked upon by the ancients as "excrescences or carnossities," at the neck of the bladder, which demanded destruction to re-establish the course of the urine, and this destruction was attempted by the erosion of the supposed carnossities with metallic instruments. *

Later, when the nature of the disease was better known, the obstacle was perforated by metallic catheters or sounds. This was recommended and practiced by John Hunter and Sir Everard Home, and still later by others, but finally abandoned as uncertain and dangerous.

Caustics were used for the purpose of destroying the prostatic obstruction, particularly by the followers of Ducamp.

Compression by the prolonged retention of the catheters in the bladder was one of the expedients resorted to in cases of prostatic obstruction.

Dr. Physic, of Philadelphia, employed hydraulic compression and retrograde dilatation of the urethro-vesical orifice to overcome prostatic obstruction.

In 1825 J. Leroy d'Etiolles endeavored to make depression and compression by means of a rectilinear metallic sound, and afterwards by a flexible catheter, substituting a straight for the curved stylet after introduction. In both cases he really pushed back the obstacle without dilating the neck of the bladder as had done Dr. Physic, and his patients, for a while, urinated better. Mercier cites Meyrieux and Tanchou as having employed for this purpose an articulated stylet which could be straightened after the introduction of the catheter and kept in position for two hours. Mercier suggested his rectangular sound for depression of the prostate, and also a flexible catheter with a stout straight whalebone stylet, and says that he has obtained some good results with the latter, but has not retained it in the bladder more than ten minutes at a time.† He speaks of Nicod who, mistaking supra-montanal tumors for polypi, tore them off and thus, by this rude method, obtained some success. Riolan, in the seventeenth century, performed trachœlocystotomy for retention of urine several times with success.

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* The prostate was not discovered until about the middle of the sixteenth century, and the discovery is attributed to Nicolas Massa. The first suggestion made, that the neck of the bladder could be obstructed by a tumor of the prostate, was by Riolan in the first half of the seventeenth century.

† Mr. Harrison, of Liverpool, has recently revived this method, or rather one part of it, compression, by the daily introduction of the bellied bougie (bougie-à-ventre of the French) with a view of establishing a channel in the center of the prostatic valvule.

Covillard (seventeenth century) after performing this operation tore away with the forceps a prostatic tumor from the urethro-vesical orifice, and in another case, during lithotomy, repeated this procedure.

Desault resorted to the same operation in one case. Sir William Blizzard is also cited as recommending and performing trachœlocystotomy for the purpose of removing prostatic obstruction.

In our own time a number of surgeons in performing lithotomy have removed, by enucleation or otherwise, prostatic tumors of various sizes. Among these surgeons may be mentioned Sir William Ferguson, Mr. Cadge, Dr. Williams, and Mr. Bickersteth. In our country this expedient has also been resorted to with success.

Leroy d'Etiolles suggested the ligature of pedunculated supra-montanal prostatic tumors.

Jacobson's lithotrite has been used as a sort of *écraseur* for the removal of such tumors.

Amussat, in performing supra-pubic lithotomy, excised a small tumor from the neck of the bladder.

The division of the obstructed urethro-vesical orifice for the purpose of re-establishing the course of the urine was not erected into a regular and systematical surgical procedure until it was formulated by Mr. Guthrie, under the name of "the division of the bar at the neck of the bladder;" but Mr. Guthrie's operation does not seem to have been generally adopted.

Leroy's and Civiale's instruments were not equal to cope successfully with prostatic obstruction.

After a careful study and analysis of the various attempts to relieve prostatic obstruction that had been made by the surgeons who preceded him, Dr. Mercier was led to devise an instrument to excise a portion of the obstruction, and thus make a channel through which the urine could be more freely expelled from the bladder. His first instrument was made in 1837 by Charriere. In 1838 he tried it several times on the cadaver; in March, 1839, exhibited it to the Society of Anatomy, and on the 10th of December in the same year described it in a letter addressed to the Academy of Medicine. He has since devised three new instruments, one for excision and two for incision.

Mercier gave no names to his instruments, except that of incisor and excisor, and to his operations that of incision and excision of urethro-vesical valvules.

I have named the instruments prostatotome and prostatectome, and the operations prostatotomy and prostatectomy.

Internal prostatotomy and prostatectomy are executed by means of special instruments, not unlike lithotribes in appearance, and introduced in a similar way.

External prostatotomy and prostatectomy, the suggestion of which can be traced to Mr. Guthrie, are preceded by external perineal urethrotomy of the membranous portion. The former is done with a special prostatome, or simply with a straight probe-pointed bistoury, or a concealed cystotome; the latter with a special prostatectome or, as in the case of a pedunculated tumor, with a small wire écraseur, or in an isolated intra-mural tumor, by incision and enucleation.

About fifteen years ago, an Italian surgeon, Dr. Bottini, proposed and practiced galvano-cautery for the purpose of avoiding hemorrhage in the destruction of prostatic obstruction, and says that he has obtained good results. Hemorrhage is seldom formidable in prostatotomy or prostatectomy, and is generally soon controlled; therefore the utility of this more complicated operation by electro-cautery may well be questioned.

I need not describe Mercier's instruments, for this has already been done by himself and others. On account of the difficulty which I have experienced with Mercier's prostatectome in surmounting from behind forward the urethro-vesical obstruction with the male blade, I devised a prostatectome, of which the following is a brief description.

This instrument resembles an ordinary modern lithotribe, and its mechanism is very simple. It consists of a male and a female blade, the one sliding into the other. The male blade is hollow, its sides are vertical and its superior portion a little rounded. It is welded to a tubular shaft, in the center of which is a long needle worked by a button, at the proximal extremity of the handle. The object of this needle is to transfix the prostatic valvule or tumor, and hold it in position from the moment it is seized till it is cut and extracted, the cavities in the two blades rendering extraction certain. The inclination of the male blade is such that it will ride quite easily over the valvule as a preparatory step to prehension, whereas in Mercier's instrument the same blade is bent so abruptly that it is with the greatest difficulty carried over the valvule, and I have found it impossible in some instances. Again, what in Mercier's *exciseur á hameçon* is a cutting edge, in mine is a *flat* edge, so that it really acts as an *écraseur*. This instrument will cut or punch out a segment of the valvule three by nine millimétres. The beak is hollow to receive the piece of valvule, in part at least, and has a small orifice at its extremity, which serves the double purpose of allowing a little water to escape and making sure that the bladder has been reached, and of forcing out any blood oozing from the cut, which might otherwise soon coagulate, fill the cavity, and interfere with the proper lodgment of the segment of valvule. The shaft of the female blade is cut sloping for four centimétres to its junction with the beak, so as to give more depth to the male blade. The handle is copied from Collin's lithotribe handle. The instrument is easily dismounted for cleansing by first unscrewing the button which serves to work the needle. Marks one centimétre apart on both surfaces of the screw apparatus indicate the extent of separation of the blades during seizure of the valvule, and consequently its thickness.

To seize and punch out a piece of the valvule, the instrument is introduced locked, the beak is reversed as soon as it has entered the bladder, and the screw turned from right to left, so as to open the blades or jaws, when the male blade will pass over the valvule and drop in front of it into the prostatic sinus. The instrument still locked is moved to and fro, that the operator may know that it is in its proper position, then the needle is thrust through the valvule until its point has entered a shallow pit in the posterior wall within the female blade. The screw is now turned from right to left until there is a slight resistance. The operator casting his eye upon the handle at once ascertains the thickness of the valvule which he is about to cut. A few slow turns of the screw which drive the male blade home will complete the section or *écrasement*, with a peculiar crunching sensation, such as is never experienced in any other operation. The instrument, holding the segment in its closed jaws, is pushed into the bladder and then slowly withdrawn, and a full dose of quinine is given. In the course of half an hour the patient is asked to urinate; failing, his bladder is emptied by means of a catheter. Contrary to Dr. Mercier's injunctions, I have retained a catheter in the bladder for twenty-four hours in some of my cases.

The after-treatment consists in the introduction of an instrument to make dilatation and depression of the urethro-vesical orifice once every five days to retard the process of cicatrization.

RESULTS.

Dr. Mercier told me seven years ago that he had performed these operations about four hundred times, and that of all the complications hemorrhage had given him the least trouble, and that his results had been extraordinarily good. Other surgeons, however, have not been so fortunate; for two cases, by incision, operated upon by Dr. Laugier in 1863, at the Hotel-Dieu of Paris, died apparently of pyæmia; one in sixteen days, the other in thirty-three days, the latter having advanced renal disease. In 1863 and 1865 Dr. Demarquay operated upon three cases by excision. Two cases were successful, and the third died on the fifth day from the consequences of hemorrhage and intra pelvic suppuration. Here, then, is one case of fatal hemorrhage in five operations. This would be a large proportion if the accident occurred once in every five cases, but it does not. Among Dr. Mercier's published cases is one only of profuse hemorrhage which it was difficult to control, but the patient eventually made a good recovery. Other French surgeons have performed the operation, but I have not their statistics. The effect of the operations of incision or excision may be transitory or permanent: transitory, when the difficulty in urination is reproduced; permanent, when it is always possible for the patient to empty his bladder without the aid of a catheter. Mercier relates a number of cases in which the patients were able to empty the bladder from the moment of the operation, and continued to do so indefinitely. In others, however, there was only an improvement in micturition, but this improvement was progressive. In another class of cases there was a considerable amount of residuary urine, but ordinary catheterism, impracticable before, was rendered possible and easy by the operation.* Recurrence of the troubles in urination has been noticed in some cases, and in these Dr. Mercier considers it proper to repeat the operation even years after the first operation.

I have had recourse to cutting operations for the relief of urethro-vesical obstruction in nine cases. The ages of the patients were as follows: one was twenty-six, one forty-eight, two were fifty-nine, one sixty-seven, one sixty-eight, two were seventy, and one seventy six years of age.†

The obstruction was of two years standing in three cases, of four years in two cases, of seven years in one case, of eight years in one case, and of ten years in two cases.

Of the nine operations, two were of internal and two external prostatotomy; and three of internal and two of external prostatectomy. Eight of these patients recovered and one died, the cause of death being advanced pyelo-nephritis. There was a considerable hemorrhage in one case only, and this bleeding was controlled in a short time by cold irrigations, and the retention of a catheter.

In one case the patient was able, after the operation, to catheterize himself easily, while before, ordinary catheterism was very difficult, and sometimes impossible. This was the only advantage gained by the operation. The patient died three years after at the age of seventy-nine.

In one case the result was not as satisfactory as I had expected, since the patient was only at times able to empty his bladder spontaneously. Of the remaining six cases, five patients were after a while able to empty the bladder spontaneously. The sixth still retained a small amount of urine when he left me. The daily use of the catheter was advised in all these cases for the double purpose of irrigating the bladder and of maintaining the patency of the cut made in the urethro-vesical barrier.

In three of these six cases there was in the course of a couple of years a recurrence of the urethro-vesical obstruction indicating the necessity of a second operation, but it was not performed. Two of these patients have since died, one three years, the other five years after the operation.

INDICATIONS AND CONTRA-INDICATIONS.

Prostatotomy and prostatectomy, in my belief, should be reserved for cases of crescentic valvular obstructions, and bars of not more than a centimetre in thickness. I would give my preference to external prostatotomy over the internal operation in these cases, although I have had recourse to external prostatotomy and prostatectomy in only four of my nine cases.

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* Some years ago I saw a patient upon whom Dr. Mercier had operated twenty years before, and he was able to sound himself easily.

† My first operation of internal prostatotomy was performed on the 4th of October, 1878, and my first external prostatotomy was performed on the 27th of April, 1880. My first internal prostatectomy was on the 15th of June, 1880, and my first external prostatectomy was on the 20th of July, 1880.

As a general rule it is best to perform the operation in the early period of the existence of obstruction to urination, but under certain circumstances it is justifiable to operate upon cases where the obstruction has been of long standing, for instance when ordinary catheterism becomes very difficult or impossible.

Advanced renal disease is a contra-indication. Dr. Mercier has operated successfully upon cases where stagnatian of urine had existed seven and nine years.

The co-existence of stone is not a contra-indication; nor is age, some of Mercier's patients were 74, 76, and 78, one of mine was 76.

Predunculated tumors (which are rare) should be removed by external operation, and if large, with the aid of a small wire *écraseur*, if small by clamping them with Mercier's last prostatotome and cutting through the pedicle. Intramural tumors also require external section followed by enucleation. This method has been eminently successful.

I doubt if anything can be gained by excising a portion of a large sessile supra-montanal growth, and am disposed to think that a very free central incision would be more serviceable.

ARTICLE III.—THE CAUSATIVE RELATION OF GONORRHŒA TO RENAL AND CARDIAC AFFECTIONS. By William B. Hazard, M.D., Professor of Chemistry and Toxicology, and of Mental and Nervous Diseases, St. Louis College of Physicians and Surgeons.

In June, 1883, I was called to see Mr. P——— who was suffering from acute epididymitis, following attempts to dilate an old stricture of the urethra. He was about 50 years of age; single; had always been a good liver, although not addicted to the excessive use of alcohol, and preserved a stricture of not a close character as a relic of a gonorrhœa contracted in his youth. This he regarded as of little consequence; refused internal urethrotomy, and contented himself with occasional dilatation with sounds. It was learned that albumen appeared at times in the urine, never to any large extent, and sometimes the lower extremities became moderately œdematous. This had always disappeared under the use of oil of eucalyptus and proper dietetic regimen.

The epididymitis yielded promptly to ordinary treatment, and I saw him no more professionally until September, 1884. Meanwhile he had married and traveled considerably. At this time œdema and albuminuria had reappeared; the temporal and radial arteries were rigid; and a loud systolic mitral murmur was to be heard over the apex of the dilated and hypertrophied heart. There was considerable dyspnœa; the extremities were swollen and the peritoneal cavity contained much fluid. Nourishment was taken with difficulty; the strength failed; œdema invaded the lung tissue; the mind became affected, and death resulted from uræmic poisoning a few weeks later. At the autopsy, which was not completed, the kidneys were found in an advanced stage of parenchymatous degeneration (large white kidney of Bright), and the heart enlarged by both hypertrophy and dilatation, the valves rigid and closing incompletely.

The pathological chain in this case was evidently made up of the following links: A badly treated attack of gonorrhœa left in its train a slight stricture. This was regarded of little consequence, and, from year to year increased in density, and narrowed in calibre. The irritation of the bladder caused by this obstruction to the flow of urine was propagated to the kidneys by continuity of structure, or, possibly, through the medium of the nervous mechanism. As soon as morbid changes are set up in the kidneys the blood is insufficiently depurated. The presence of effete materials induces two important conditions, both of them tending toward further morbid changes. These are, an irritation of the muscular coats of the smaller arterioles throughout the body, and a tendency to degeneration in the walls of all the arteries—great and small—together with the structures of the heart. The degenerative changes are probably due to the innutritious character of the blood furnished for the repair of the tissues, while the irritation of the arterioles is caused both by direct stimulation of the vessels by the poisonous substances coming in contact with the endothelium and by the effects of the same materials upon the vaso-constrictor system of nerves.

The spastic contraction of the vessels offers a serious obstacle to the flow of blood into the capillaries; thus more work is thrown upon the heart. Hypertrophy inevitably results.

From the general condition of malnutrition of the vascular structures, growth fails, and dilatation follows more closely on hypertrophy from kidney trouble than when it is due to valvular lesions of other origin.

The valves of the heart become rigid from the same cause, and they soon fail to close completely when the cavities become largely dilated.

During the stage of hypertrophy, if the arterial degeneration advances with unusual rapidity, cerebral hemorrhage may follow; on excessive muscular exertion or emotional excitement an apoplexy may close the history of a case of gonorrhœa.

Dr. Noeggerath* has delineated the remote effects of gonorrhœa relative to the causation of sterility in both male and female and of uterine and ovarian affections. His views have been ridiculed and doubted, although they are but slightly, if at all, exaggerated, in my opinion. That the same "trivial affection"—"nothing more than a cold in the head"—is responsible for a very large proportion of the cases of Bright's disease in males, is also, I believe, susceptible of proof. Aside from the acute infectious constitutional diseases (fevers), I believe most cases of chronic nephrities are due to gonorrhœa remotely, and to stricture more immediately.

As the immortal Bard of Avon has put the case:

> "The gods are just, and of our pleasant vices
> Make instruments to scourge us."

No. 1 South 23d St., St. Louis.

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* Gynæcological Transactions. Vol. 1. 1874.

ARTICLE IV.—THE ROUTINE USE OF THE VAGINAL DOUCHE AFTER NORMAL CHILDBIRTH.—By SIMON BARUCH, M.D. NEW YORK.

The subject of this brief paper was freely and fully discussed last year, and abstracts of several articles and utterances have appeared in this journal. As I took the initiative in opposing this procedure in our journals and societies, and as my opinions were the offspring of actual clinical experience rather than of mere theorizing, I continue to feel a deep interest in the subject, and I do not propose to cease agitating it " until the last armed foe expires."

I had regarded the whole question as settled, since not a single argument was raised in favor of these so-called prophylactic injections, either in our city journals or in our city societies, after I had presented the subject in its various true aspects. Indeed, every physician with whom I have since that time conversed on the subject, has expressed approval of my course and I have received letters from different portions of the country signifying entire agreement with my views. As a specimen of the letter, I quote from a distinguished Texas physician, D. W. T. Baird, of Austin, Texas. In a recent letter he says, referring to my paper on " Objectionable Features of certain Methods of prophylaxis against puerperal fever (*Med. Record*, Feb. 10, 1884), " Allow me, further, to assure you that the great body of the most eminent physicians in this State adhere to your views and are strict followers of the principles which you have so plainly laid down."

I was surprised, therefore, when I read in the March number of " Gaillard's Journal " an abstract, giving the editorial remarks of the *Boston Med. Journal* on the " routine use of the vaginal douche after normal childbirth," in which the writer reaches the conclusions " that the routine use of the vaginal douche after normal childbirth, when given by competent hands and with proper apparatus, is not dangerous nor even hurtful; that it affords a refreshing sense of cleanliness and well-being to the patient; that it promotes the healing of abrasions and lacerations; that it may be the means of preventing infection."

I. That the vaginal douche in normal childbirth, even when given by competent hands and with proper apparatus, is not dangerous nor even hurtful, is a conclusion which my own experience warrants me in regarding as incorrect. I have recorded (*N. Y. Med, J., Jan.* 5. 1884) several cases of fever in childbirth which were cautiously and reluctantly traced to injections administered by " competent hands " (at least as competent nurses as I could obtain here), a few cases whose repeated recurrences directed my attention to the injections as a possible cause. It cannot be claimed that I was at that time prejudiced against these injections; on the contrary I prescribed them as a routine practice because I had been led to believe in their prophylactic efficacy. Since that time I have seen a few cases of injection fever in the practice of friends, a notable one being the wife of a physician, who came to me on the seventh day after the labor, on account of the illness of his regular attendant, with a history of temperature elevations gradually and daily increasing from 101° to 104° F. The perineum had been repaired and the stitches removed with good union; injections had been regularly used three times a day. So soon as the latter were omitted the fever stopped. Recent literature furnishes similar cases, and there are not a few recorded in which septic matter was introduced by them; and others in which the frequent syringing with the recently popularized bichloride solution has produced poisonous effects. My experience with "competent" nurses furnishes the following example: I was called upon to operate for circumcision in the family of a lady who happened to be recently confined under the care of a scrupulous follower of Dr. Thomas's 'puerperal antisepsis.' He had selected the best nurse that could be obtained at increased expense to carry out the plan, including vaginal carbolized injections every four hours. The mother of the lady took pains to volunteer this information with some pride. The celebrated "competent" nurse also attended my patient, and took charge of a new sponge which I had used. When I called for the latter on the following morning, for the purpose of dressing the wound, she brought me a basin of properly proportioned carbolized water, upon which floated my little sponge. When I discovered some *specks of yellow fecal matter* upon the latter, she admitted that she had used the sponge to clean the nates of the new-born babe. This is a specimen of a *selected* nurse.

I may say in parenthesis that the scrupulously antiseptic gentleman here referred to has recently given up prophylactic vaginal injections, as have many others, who were formerly exacting in this respect.

The second conclusion, that it affords a refreshing sense of cleanliness and well-being to the patient, does not tally with my experience. While a few women, especially those who have long used vaginal injections for uterine disease, regard them with favor, the great majority express themselves as delighted to be rid of this disturbance of their rest and interference with their comfort, which they had on former occasions suffered from these "routine douches."

The third conclusion, "that it promotes healing of abrasions and lacerations," is contradicted by the principles of modern surgery, which affirm that rest is the most important element of wound treatment. Even if the abrasions or lacerations be not irritated by the point of the syringe, a stream of water flowing with more or less force over them and distending the vagina, must interfere with healing. The modern surgeon values rest above all things, and he avails himself of absorbent antiseptic dressings in order to obtain it in wounds furnishing or connected with discharges. The napkin, made antiseptic by sprinkling a 1 to 1000 solution of bichloride of mercury upon it, after removal of the first layer of the cloth, which is again returned and lies next to the vulva, represents as nearly as possible an antiseptic absorbent dressing.

The fourth conclusion, that the douche may be the means of preventing infection, scarcely needs contradiction, for clinical experience has disproved it again and again, and has led to its abandonment. In my paper of March 22, 1884, *N. Y. Medical Journal*, I have furnished statistical evidence, in which it is irrefutably shown that the mortality in those maternities in which routine douching is used is far in excess of those in which careful abstention from vaginal disturbance is practiced. Recent papers on the subject, and especially the Berlin letter of Dr. Cushman to the *Boston Med. Journal*, of the 11th inst., fully sustain my view and practice. He says: "I find that they are not used in the lying-in hospitals, either here or in Munich, or, as far as I know, in any other of the institutions of repute in Germany. The important institutions here are under the charge of Professor Schroeder and Professor Gusserow, those of Munich under Professors Winckel and Ammon. the latter of whom I have met here. All testify to the same fact that formerly they used vaginal injections after normal labor, but that since the perfection of prophylactic treatment maternally, and especially since the introduction of corrosive sublimate, they have found such injections unnecessary, *as they were sometimes injurious* [italics mine], they are now used only in cases where some special indiction, as fever or foul lochia, calls for them. Professor Ammon assured me that he treated without injury 500 consecutive cases of labor in the Munich hospital recently, with only one death, from pneumonia acquired before entrance. In the lying-in department of the Charité under Gusserow, and under the immediate management of Dr. Kaumpland Myer, there are some 3,000 deliveries yearly. These gentlemen have assured me that having formerly used vaginal injections in all cases, they have now abandoned them unless in special cases and for special reasons, and they have every reason to be satisfied with the change. Certainly in repeated visits to the lying-in wards I fail to find anything like the usual proportion of cases of febrile character."

I am glad to learn that Professor Gusserow has been converted; for in my statistical table, the paper containing which I sent to him, cited him as a follower of prophylactic injections, with a mortality in his wards of 1.5 per cent., in contrast with Breisk, who is an opponent to injections and whose mortality was from 0 to (·20) ·20 per cent.

The eloquent author of the paper on antiseptic midwifery, which was the theme of such extensive discussion last year, and which I felt compelled to oppose with regard especially to the injections, has himself said in the closing argument: "The arguments which have been brought against the practice (vaginal injections every eight hours after labor) since I read my paper have had great weight with me. I confess I feel less firm in my convictions upon this point than I did, and that in future I will examine the question carefully *ere I determine to adhere to any plan.* You may ask: Why this change of opinion? My answer is that I strive to mend the faults of yesterday with wisdom of to-day. (*New York Medical Journal*, February 16, 1884.)"

Gusserow and Thomas do not hesitate to change their opinions when argument sustained by clinical experience warrant it, and other obstetricians need not fear to follow these men of large experience and justly great fame, especially when, as I have shown in the very beginning of the discussion, on this subject, the danger, inutility, and impracticability of prophylactic injections render them objectionable in normal childbed.

In conclusion, I would summarize the points I have given at length in my paper on Prevention of Puerperal Infection (*New York Medical Journal*, March 22, 1884,) as follows. If the obstetrician will never introduce an examining finger into the parturient canal without brushing the nails and scrubbing the hand with an antiseptic solution—if he will be careful to make his examinations rarely—if he will *express* the placenta completely by Credé's method and *extract* the membranes without haste—if he will ensure complete expulsion of all coagula and tonic contraction of the uterus—if he will *see to it* that the vulva has been well cleansed of all clots and stains by an antiseptic solution (not with a sponge), and that it continues to be kept clean—if he will have clean napkins, sprinkled on the outside with some strong antiseptic solution, placed upon the external genitals, and if the nurse's hand be strictly kept out of the vagina, the demands of modern midwifery will be fulfilled, and "all will go merry as a marriage bell," so far as puerperal fever is concerned.

43 *East 59th Street, May* 24, 1885.

ARTICLE V.—DIPHTHERIA AND ITS TREATMENT BY CALOMEL.* By S. J. MURRAY, Brooklyn, N. Y.

In presenting my paper here to-day, I am well aware that I am speaking to you of a disease which has been more written about, and yet is perhaps less understood, than almost any disease with which we come in contact. It is, indeed, thought probable that the history of diphtheria can be traced back to a period before the time of Hippocrates, but, unquestionably, the writings of Arœtaus, who flourished in the second century of the Christian era, contain a distinct description of this malignant sore throat. He gives it the names of ulcus Syriacum and malum Egypticum. From this period there is quite frequent mention of the disease in the works of medical writers; the earliest account of its appearance in modern times being given by Hecker, who describes an epidemic that prevailed in Holland in 1337. About the middle of the last century this affection prevailed in Paris, where an account of it was given by some French writers. The first full description published in this country was a paper by Dr. Bard, based upon an epidemic which appeared in 1771. The views advanced in this paper have been universally recognized, even at the present day, as most clear and just. From this time the complaint seems to have attracted but little attention until its occurrence at Tours, in 1818, and subsequent years called forth the treatises of Bretonneau, in 1826, in which he gave the first precise notion of the disease, and bestowed upon it the name Diphtherite. Since then it has occurred epidemically in France. In 1857 it appeared almost simultaneously in England and in the extreme western part of our own country, and from that time has been seen in the form of epidemics of greater or less extent and severity, in the most varied climates and seasons, in almost all known parts of the globe.

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* Read at a scientific meeting of the Fifth District Branch of the New York State Medical Association, held at Poughkeepsie, May 19, 1885.

In regard to the epidemic, and occasionally endemic, nature of diphtheria, the evidence is equally clear, but it is still an open question in some quarters as to how far it possesses contagious and infectious properties. That it is transmitted directly by contact with the morbid products generated by the local disorder, i. e., the pseudo-membrane, there is considerable evidence to show, and it must be admitted that there are cases now on record in which the disease has been transmitted which would seem to be too clear and too well authenticated to admit of doubt. Its prevalence, and especially its virulence, are favored by defective drainage, by contaminated air, and by the drinking of impure water. It is certain, however, that occasionally the disease appears in a sporadic form, and isolated cases occur which can be attributed to no known cause whatever. Much more might be said in regard to diphtheria, and the causes and conditions which favor its development and govern its virulence; but my object in presenting this paper to-day is not so much for the discussion of the disease, as to give my own mode of treatment. The fact is undeniable, that although this disease has been long recognized by the profession, the large rate of mortality met with in it (which sometimes reaches as high as fifty per cent.) proves that we have not yet adopted the best plans of treatment. I believe diphtheria to be an acute, febrile, moderately contagious and infectious, asthenic blood disease, occurring endemically and epidemically; and the entrance of the diphtheria poison is effected, in some way, long before we recognise the disease by its characteristic local manifestations. A constitutional infection has already occurred when the membrane appears, and the disease kills, *not* by its local, but by its constitutional, effects.

In prescribing a drug we should endeavor to learn just what action it has on the system, in order to be able to use it intelligently; so we shall now consider briefly the remedy which I employ. Calomel, on entering the stomach, is supposed to escape unchanged into the intestines. It is there decomposed by the alkaline juices, and dissolved by the fatty matter, always present, and a portion of it is immediately absorbed and from thence passes into the blood-vessels. I am aware that I am speaking of a remedy that has already been employed by some in diphtheria, but nearly all of the profession disapprove of its use, claiming it to be a dangerous drug. It is not the use, but the abuse, of it in the hands of some, which leaves unpleasant after-effects; for a single dose of it has never been known to produce death. In the West it is frequently prescribed in teaspoonful doses, and a pound of it is said to have been given in a case of cholera, without visible effect. Dr. Thallon, of Brooklyn, in his able article, read before the Kings County Medical Society, on the bichloride of mercury treatment, says that when the patient's bowels are constipated, he gives the mild chloride. We might infer from this that his success may have been in part due to the latter chloride. A German physician, in a short article entitled "Treatment of Diphtheria by Calomel," says that he precedes its use by a gargle or spray of chloride of sodium. This would seem to me to be rather hazardous, and might produce fatal results; for, of course, as soon as the calomel and chloride of sodium unite, they are converted into the bichloride, of mercury, and we are giving the patient not the mild chloride, but the bichloride in unknown quantities. While others have used calomel, I know of none who have employed it in the same quantities that I have, for diphtheria. I did not adopt this plan of treatment until I had exhausted nearly or quite all of the remedies prescribed by our various authors, and had met with poor success in curing my patients; so that when I decided to use calomel, I resolved to give it a thorough trial. With what results the following cases will show.

On Nov. 27, 1879, I was called to the home of Mr. B., where I found the whole surroundings in a most filthy condition. The parents had just returned from the burial of one of their children, who had died of diphtheria. I wondered they had not buried the whole family when I saw the sanitary condition of the home. On entering, I found a girl of ten and a boy of eight years of age. The temperature of the latter was 103, pulse, 115, and respiration quickened; he was thin and anæmic, and complained that he could not swallow. He had been sick for three or four days. On looking into his throat, the pharynx was found covered with a dirty, grayish membrane, foul-smelling and strongly adherent. The girl's throat presented very nearly the same appearance, and her temperature was 101, pulse, 96. I immediately ordered the house to be disinfected; I then gave the girl ten grains of calomel, and the boy about eight, to be repeated every four hours, until I returned the following day. I also ordered stimulants and nourishment to be given at stated periods, and had the throat lightly swabbed with a mixture of carbolic acid and glycerine. This was in the afternoon. I called early on the following morning. The children had then taken four doses each of calomel, the girl having taken forty grains, in all, and the boy about thirty grains. The girl seemed a little better, the temperature having fallen one degree, and the pulse was 90. The boy was no better, though his temperature had fallen one-half a degree. I ordered treatment continued in both cases. On my third visit the girl was doing very nicely, and a portion of the membrane was gone. She had taken 90 grains of calmel, and I now ordered the ten grains to be given only night and morning. The boy's temperature had fallen from 103 to 101. His pulse was 90 and his throat looked about the same. I ordered five grains of quinia to be given every six hours, and stimulants and nourishment increased. I continued calomel, only giving it in five, instead of eight, grain doses. On the following day when I called, the membrane from the girl's throat had entirely disappeared. I discontinued the calomel, and gave quinia in tonic doses. She made a very nice recovery. I found the boy's condition more favorable, temperature and pulse nearly normal, and the membrane around the edge partially detached. He had now taken about one hundred grains of calomel, and I discontinued it, but still gave my nourishment, stimulants, and quinia. The boy made a slow but good recovery. In the midst of all this filth the mother nursed a babe who was constantly exposed to the disease, but did not take it.

My third case, occurring July 17, 1880, was that of a young lady of eighteen suffering from a well-marked case of diphtheria. I immediately gave her ten grains of calomel, repeating it every six hours. I applied powdered sulphur to the throat, ordered a small amount of stimulants, and a diet of milk. When I next called, I found my patient quite comfortable, and that there had been no increase in the extent of the false membrane. I continued my treatment, giving the same amount of calomel as the day before. On the 19th, when I called, I found the false membrane practically detached, and on the 20th, it was entirely gone. I then prescribed a tonic of quinia and iron. The patient recovered nicely. On August 2, two weeks after, I was called to see the sister, who was sixteen years old, who had a well-defined diphtheritic membrane extending from either side of the uvula over the soft palate for about half an inch. She was quite weak and anæmic, and complained of a great deal of pain in her throat. She said that she had been feeling poorly for some days. Temperature was 102, pulse 110. I gave her the same treatment, except an increased amount of stimulant, and ten grains of quinia at night, with the same results. On October 1., two months after having been called to the second sister, I was called to a third, a miss of fourteen, a well-developed girl, quite stout. The temperature was 104, the pulse 120, and she complained of intense pain in the throat. There was no membrane formed, but the whole pharynx was covered with elevations of the mucous membrane, some of which appeared like little ulcers, from which there was an exudalation. I gave her eight grains of calomel every four hours. Two hours after giving the second dose, I gave ten grains of quinia, and a gargle of chlorate of potash, alternating with powdered sulphur, every half hour. I ordered a glass of milk with stimulants, to be given every three hours. The next day I found her temperature 102, pulse 100, and the pain alleviated, but over a portion of the throat from which the exudate had been flowing the previous day, a thin false membrane had formed. Over the other portions, the elevations had practically shriveled away, and the inflammatory condition was reduced. I continued the same plan of treatment. On the third day the temperature was 100, pulse 80, and she was very comfortable. The membrane had not increased, and the inflammatory condition was improved. After this, instead of giving eight grains of calomel, I ordered five grains to be given night and morning, and ten grains of quinia at night. Stimulants and diet were continued. The next day the membrane had entirely disappeared, and the patient in other respects was doing well. I discontinued the calomel, but gave quinia in tonic doses; also continued the nourishment and stimulants. This patient, too, had a good recovery.

These are all the cases I have prepared for your consideration. I could give many more with equally good results, but I have endeavored to be as concise as possible. I hope I have succeeded in making myself clearly understood. In conclusion, I would say that I always give calomel dry, since when given in this way more or less lodges upon and around the membrane, dissolving it and preventing its extension. I may add that I have never had hemorrhage after the removal of the membrane, nor have ever known the latter to form a second time. Calomel in the large-sized doses in which I prescribe it acts as a sedative, while it does not produce mercurialization, nor leave any unpleasant after-effects.

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ORIGINAL TRANSLATIONS.

TREATMENT OF SUPPURATION OF THE BODY OF THE BLADDER. TREATMENT OF CATARRH OF THE BLADDER. By Prof. R. ULTZMAN, of Vienna. Translated from *Le Progrés Medical*, by H. M'S. GAMBLE, M.D., Moorefield, W. Va.

Every catarrh of the bladder having a cause, it can only be treated successfully after the latter has been found and attempts made to remove it. Catarrh of the bladder provoked by a pretended cold does not exist. One ought, then, never be contented with this convenient etiology ; it is better to seek for its origin by means of as exact instrumental exploration as may be possible, and not to stop until it has been found.

The therapeutics of vesical catarrh differ according to whether we have to treat an acute or chronic cystitis. The treatment of acute catarrh of the bladder is only symptomatic, dietetic, and medical, whilst in chronic catarrh local treatment with instruments plays the principal rôle.

Acute catarrh of the bladder is generally the consequence of an affection of the neighboring organs; however, it may start in the bladder. Chronic vesical catarrh has, per contra, ordinarily as its cause a parenchymatous or organic modification of the bladder itself and of the prostate or an anomaly or its contents. We must not lose sight of the fact, also, that tuberculosis, in particular, gives rise to very tenacious catarrhs. It results from this brief remark that in the search for the cause of vesical catarrh, one should think of everything else rather than of the bacteria, often altogether wrongfully incriminated, and which, in fact, are nowhere absent where there exists at the same time ammoniacal fermentation. In acute catarrh rest in bed or at least confinement to the room and the horizontal position are indicated. If the fever is somewhat pronounced, rest in bed is absolutely necessary, otherwise grave complications, such as pyelitis and pyelo-nephritis, retention of urine, hæmaturia, etc., may appear. Against the fever quinine will be prescribed, and, if there are prolonged chills, warm aromatic drinks will be administered. (For example, ptisan of linden flowers or weak Russian tea.) To the pain of the vesical region will be opposed cataplasms made with aromatic infusion, and compresses steeped in flax-seed water. If there is pain simultaneously in the perineum and in the rectum, a few leeches upon one or other of these parts may produce considerable relief. Against the violent, painful, and frequent necessity of urinating, narcotics or rectal suppositories will be prescribed. Internally, morphine combined with lupulin and bicarbonate of soda is strongly recommended. Likewise, rectal suppositories of morphine are greatly preferable to those of belladonna. The extract of belladonna is a preparation the action of which is very irregular. Whilst in certain cases it is almost without effect, in others it provokes vesical contractions and increases strangury still more. The extract of henbane is still less certain.

The following formulæ are most worthy of trial:

Lupulin	1	gr.
Muriate of Morphia	0.05	
White Sugar	3	gr.

Mix and divide into 8 powders.
Three per day.

Muriate of Morphia	0.10	cent.
Butter of Cacao	12	gr.

Make six suppositories.
Two to three per day.

When the suppositories are badly borne, small mucilaginous injections with 10 to 15 drops of tincture of opium may be administered two or three times a day. As a drink one may take milk, orgeat, or ordinary water. Decoctions of hemp or flax-seed, such as are administered ordinarily in acute catarrh of the bladder, are no better than the remedies presented, and very often provoke disgust. The mineral waters and diuretic ptisans are not indicated so long as urination is painful and frequent. Little by little only, when the pains of urination are commencing to diminish, we may begin with soda waters, mixed with warm milk, and advance to the pure mineral waters only when the pain has entirely ceased. It is the same as regards the astringent and diuretic teas, such as the leaves of the uva ursi, hoarhound, and chenopodium ambrosioides. Warm sitz-baths, two or three times a day, or full baths, facilitate micturition very much. If there supervenes a retention of urine until the bladder forms a sensible tumor above the symphysis, a vulcanized caoutchouc catheter will be introduced gently into it; it will be evacuated; it will be well washed with a warm solution of carbolic acid to the 1-10, and if the pain is intense, a solution of 30 drops of tincture of opium in 300 grammes of water will be used. Rigid elastic catheters and metallic catheters are less recommendable, because if the mucous membrane is relaxed they may wound the neck of the bladder.

The treatment of *chronic catarrh of the bladder* ought, contrary to that of acute catarrh, to be always local. Before commencing this treatment, the prostate and the bladder ought each time to be minutely explored with the exploring sound. If the catarrh was complicated by a stone or a stricture, it goes without saying that it would first be necessary to remove them. If a partial or an incomplete retention of urine was the cause of the catarrh, as ordinarily happens in prostatic hypertrophy or vesical weakness, it would be necessary, before all, to regularly practice evacuative catheterism, together with medicated injection into the bladder.

The mode of applying remedies to the diseased mucous membrane of the bladder consists in injecting medicated solutions after the organ has been emptied. The washing and injection ought to be performed as follows, the patient standing up: After urination we introduce a soft or elbowed catheter into the bladder and empty it completely. Then with a hand syringe containing about one hundred grammes of liquid, a gentle injection is made. Each time the first and second syringeful is allowed to escape, but the third is retained for a longer time. One might, however, proceed in the following manner: first, with a hand syringe wash out the bladder with warm water, until it escapes clear and limpid. Then the medicated solution is injected into the bladder and the catheter is closed with the finger for one or two minutes, after which the solution is allowed to escape. This is the most practical mode of treating a bladder locally. If the patient is feeble or feverish and cannot stand up, we proceed with the washing in exactly the same way in the lying or half sitting posture of the patient. However, the erect position, when it is possible, is always preferable, because in this manner the deposits can easily be expelled from the bladder.

Formerly, washing the bladder with the double metallic catheter was preferred. It is a bad method. In the first place, a metallic catheter irritates the bladder and its neck much more than a vulcanized rubber catheter, and then the bladder is always contracted during the washing; the water going out of one opening of the catheter to re-enter the other, so that a small surface of the bladder is found to be irrigated. However, the principal mass of the catarrhal secretion which is found in the folds of the mucous membrane or in the intertrabicular spaces is never completely expelled in this way. One may easily satisfy oneself of this fact. Let one wash a bladder affected with purulent cystitis, in the first place, for a quarter of an hour with the double current catheter and immediately afterwards with the hand syringe and the soft catheter. In this manner a larger quantity still of catarrhal secretion will be removed by means of the hand syringe, although in the washing with the double catheter perfectly clear water had already escaped. In fact, each time the syringe is emptied, the bladder is distended, the sediment lifted up and completely expelled; but cleansing the bladder by means of the irrigator, is not practicable. With the irrigator, the liquid is ordinarily allowed to flow quietly into the bladder until the patient experiences a sensation of fullness and tension, after which the liquid is removed. If the washing is conducted in this manner in bladders which are non-contractile and sluggish, they only become larger and consequently more incapable of acting. At the same time the deposits are never evacuated with the irrigator as with the hand syringe, because the introduction and the escape of the fluid is accomplished too painfully.

In sensitive bladders, all injected liquids ought to be warm; when cold, they immediately provoke the strongest desire to urinate, so that the continuation of the washing becomes impossible. In bladders but slightly sensitive, on the contrary, as those attacked with paresis or catarrh complicated with hemorrhage, the injections ought to be cold. The washing of the bladder is sometimes performed with pure water only, sometimes with water containing ten drops of tincture of opium to the hundred cubic centimetres of water. For the vesical wash one may employ a solution of carbolic acid to ⅛ or ¼ per cent., or a solution of salycilic acid to 0.30 per cent. As not infrequently this latter produces a good deal of smarting, especially when the solution, because of the feeble solubility of salycilic acid, is not clear, solutions of salycilate of soda are employed in its place. Solutions of one gramme to one gr. 50 per cent. of carbolic acid are not well borne except by bladders having but little sensibility. Solutions of 3 to 5 gr. per cent. of chloride of sodium, of sulphate of soda, or of borax are recommended as a wash when the catarrhal secretion is very viscid. In many cases, evacuative catheterism, accompanied by washes with the preceding liquids, suffices alone to prevent muco-purulent catarrh of the bladder. In cases of tenacious catarrh, however, it is also necessary to have recourse to energetic astringents such as a solution of permanganate of potash of .1 to .3 per cent., of alum of 1 to 5 per cent., of sulphate of zinc of .3 to 2 per cent., of chloride of zinc of .2 to 1 per cent., and of nitrate of silver of .1 to .5 per cent., the proportions of which are increased little by little.

If there is at the same time vesical hemorrhage, we may use, with the nitrate of silver, a solution of .5 to 1 per cent., of sesquichloride of iron or of tannin .5 to 2 per cent.

In sanious catarrh, a solution of resorcine is used of 3 to 5 to modify the bad odor of the urine. The same result is secured by adding one or two drops of nitrite of amyl to each hundred grammes of water used as a wash.

In phosphatic urine, in order to dissolve the deposits which it contains, we employ solutions of .2 to .1 per cent. of concentrated chlorhydric acid. In ammoniacal fermentations, these solutions are alternated with the aseptic astringent solutions above mentioned.

Consecutively to intense gonorrheal inflamations of the bladder, the catarrh is complicated with a diminution of the capacity of this organ, so that the patients obliged to urinate every five minutes prefer wearing an urinal. In old patients, we have to deal most frequently with a concentric hypertrophy of the prostate; in the young, per contra, with what is called a bladder retractedly cicatrization. In these cases the local treatment by means of medicated injections serves no purpose when we cannot at the same time increase the capacity of the bladder. This result may be attained by means of injections of water made with a syringe, in such a manner as to progressively dilate the bladder. In patients of advanced years, this method is not free from danger, because in hypertrophied bladders, large diverticula are readily formed, which may be broken. In young persons, extension of the retracted bladder gives good results.

When the catarrh of the bladder is consecutive to a partial tuberculosis, whether the tuberculosis be general, local, or mixed, which is quite often the case, local treatment does not succeed, unless one takes account at the same time of the general conditions. It is a well-known fact that catarrhs of the bladder which resist all treatment, disappear very quickly when the patients make a sojourn in the country, when they use a proper cure at a watering-place, a milk cure, etc., or when, especially during winter, they go to live in the South, in Italy, for example. In the convalescence which follows a proper local treatment a cure at Karlsbad, Marienbad, Wildungen, or at indifferent thermae, as Gastein, Romerbad, Teplitz, or analogous waters, is strongly indicated. In tubercular catarrh of the bladder Gliechenberg or Roznau are very worthy of recommendation.

Treatment of suppuration of the pelves and of the kidneys ; of pyelitis and of pyelo-nephritis. The treatment of pyelitis is purely medical, because instruments cannot penetrate into the pelvis. In extraordinary cases surgical means have been tried; but to the present time they have yielded but little success compared to the dangers they have been attended with. Thus, pseudoplastic or mobile kidneys have at different times and with partial success been extirpated, and others which contained stones or had been injured in one way or another. Likewise incisions have been made into perinephritic abcesses and into the pelvis of the kidney, enlarged by suppuration, the one to create an issue to the pus, the others to extract the concretions which they contained. However, no surgical operations have yet been performed for the relief of pyelitis.

In pyelitis consecutive to a febrile process or to an accumulation of urine in the bladder, or to a catarrh of this organ, the primary affection alone should engage our attention. If we succeed in curing this, the pyelitis disappears with it.

Acute pyelitis requires rest in bed. As long as there is any fever, it is necessary to prescribe quinine, and if there is pain, to add thereto some morphine. As a drink, milk, orgeat, or water; if there exists no urgent desire to urinate, mineral waters containing soda, combined or not with milk, will be prescribed.

In *chronic pyelitis* the milk regime and the systematic use of warm baths will be prescribed. As to medicines against the suppuration, one will have recourse to tannin, to the tannate of quinine, and to alum. To prevent constipation, it is advisable to combine with these medicines a little extract of aloes. Alum may also be prescribed in the form of alum whey, of which half a litre a day may be given. The following formulæ are good.

Pulverized tannin, - 1 gramme.
White sugar, - - 2 grammes.
Make six doses, three a day.
Clarified whey, - 500 grammes.
Pure alum, - - - 3 "
For one day.

Tannate of quinine, 1 gramme.
White sugar, - - 2 grammes.
Divide into six doses, three per day.
Lime water, - - 100 grammes.
1 or 2 tablespoonfuls to a glass of milk.

Balsam of copaiba and turpentine are also sometimes successfully employed. They are prescribed in the form of gelatine capsules containing 20 centigrammes. of which six to twelve are taken daily.

Turpentine is also frequently employed in warm or cold inhalations, Dettel recommends cold inhalations. For this purpose, a coffeespoonful of pure turpentine may be conveniently mixed with three hundred grammes of cold water and a suitable quantity of this milky fluid introduced into a bottle of the form of a narghilé. The patient, taking the spout into his mouth, makes deep inspirations, and thus introduces the turpentine into his lungs. The inhalations are generally made for a few minutes, several times a day. As soon as any headache or vertigo appears, the inhalation is stopped.

In *calculous pyelitis*, remedies are given according to the diathesis. As the renal calculus is formed of uric acid and oxalate of lime, the alkalies and mineral waters containing them are most appropriate. It is for this reason that the waters of Karlsbad and Vichy have been renowned from ancient times for their efficacy against lithiasis. Against uric acid lithia is especially recommended:

Carbonate of lithia - - - - -	3 grammes.

Divide into six parts, three a day.

But a mixture of alkalies suits very well; the following above all deserves being recommended:

Phosphate of soda - - - - - -	30 gr.
Bicarbonate of soda - - - - -	60 gr.
Carbonate of lithia - - - - - -	10 gr.

A coffeespoonful dissolved in sweetened water twice a day.

"It is well understood that in calculous pyelitis a cure at Karlsbad or at Vichy is indicated.

If a tuberculous pyelitis or pyelonephritis is suspected, it is necessary to bring into action the therapeutics efficacious against pulmonary tuberculosis. A residence at Glichenberg, at Roznan, at Meran, and in northern Italy, to which will be added a proper dietetic and symptomatic medical treatment.

If in chronic pyelonephritis, moreover, affections of the stomach make their appearance, such as loss of appetite, difficulty of digestion, disgust for food and vomiting, they will be regarded as signs of chronic uraemia. And if, in these cases, we cannot expect lasting success with no matter what treatment, it is a remarkable fact that the acid mineral waters, taken internally, cause the disgusting symptoms to disappear, at least for some time. Generally, the dilute hydrochloric acid is prescribed, in ten to twelve drop doses, three times a day, to be taken after each meal, or phosphoric acid, five grammes a day, in syrup and seltzer water as a drink.

SELECTIONS.

THE TREATMENT OF CARBUNCLE WITHOUT INCISION. By L. DUNCAN BULKLEY, A.M., M.D., New York. *

A recent severe and somewhat striking case of carbuncle treated without incision has recalled a number of cases similarly treated, which excited some little interest among physicians who had watched the cases at my clinics and elsewhere, and has suggested the propriety of presenting the subject on this occasion. While the avoidance of a cutting operation in carbuncle is by no means a new suggestion, I feel sure from my experience in and intercourse with the profession, that the far more general practice is to make the free incisions so commonly recommended in many text-books, and that the plan here advocated differs in many respects from that usually employed. I will first present in brief the case referred to:

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* Read in the Section on Practice of Medicine, Materia Medica, and Physiology, April 28, 1885.

Judge —— aged 56, a large, florid gentleman, with delicate skin, first came under treatment for a very moderate amount of eczema upon the left leg and foot, which had existed to a greater or less degree there and elsewhere for five or six years. He had generally enjoyed good health, but stated that he had had diabetes for some time, in varying degree; he had not slept well since a period of nervous exhaustion several years previously. He was an excessive smoker. The eczema yielded remarkably well and quickly to an alkaline tonic, and an ointment of camphor, bismuth, and white precipitate.

Six weeks after his first visit he returned complaining of pain in the back of the neck on the right side, and on examination a red, hard, boggy mass was found, between an inch and a half and two inches in diameter, in either direction. This was moderately elevated, was apparently an inch in thickness, and on the surface were several small pustular points; it had existed several days before his visit. He was given quarter grain sulphide of calcium pills, gelatine-coated, one of which was to be taken every two hours, irrespective of meals. Locally he was directed to keep the entire surface, and over an area of nearly three inches, covered with lint, with the following ointment spread very quickly on the woolly side:

R.	Ext. Ergotæ fid	ʒij
	Zinci Oxidi	ʒj
	Unguent. Aquæ Rosæ	℥ij M.

This dressing was to be renewed twice daily, or oftener if there was much discomfort.

Three days later he called at the office, with the parts very thoroughly covered with the dressing; the boggy mass had increased in size and was fully three inches in diameter, and the postular openings, four in number, were more apparent and discharged some pus; in the largest of these, in the center of the mass, a small portion of slough was seen. He had had considerable dull heavy pain the night of the visit, but the ointment was very comfortable, and gave much relief when it was freshly applied. His pulse was 90 and of medium strength, the tongue was rather white and coated, and the bowels had been constipated but had since acted well. He was directed to continue the granules of sulphide of calcium every two hours, and the following mixture was given:

R Magnesiæ Sulphatis	ʒvj
Ferri Sulphat.	ʒj
Acidi Sulph. dil.	ʒiij
Syr. Zinzib.	℥j
Aquæ ad	℥iij M.

Take one teaspoonful after eating, three times daily, through a tube.

Three days later he again called at the office; the mass had increased still in size, and measured nearly four inches transversely; there were now five openings, the central one of some size, from which a larger amount of pus escaped. He had had some pain, but had been down town daily, attending to his business, although the nights were somewhat restless. His pulse was then 78 and of good strength, and the temperature beneath the tongue was 100.8°. The examination of the urine since the previous visit showed a specific gravity of 1.026 in the morning specimen, and 1.033 in that passed at night; in both there were amorphous urates and a trace of albumen, and in the night specimen there was a considerable amount of sugar. The treatment was continued with the addition of ten-grain Dover powders, to be taken as required for sleep. Locally the ointment was still applied.

Two days later, or eight days from the first day of treatment, the record was made that much of the hardness of the carbuncular mass had gone, that the area of the mass had diminished to three inches in diameter, and that pus of a healthly character could be pressed in some quantity from the central opening, which was about one-third of an inch in diameter, partially occluded by a grayish slough. He had slept well, taking three powders the night of visit, but none since. The treatment had been carried out faithfully in every particular; he had gone to his business daily.

Three days later all inflammatory appearance and soreness had gone from the mass, which was, however, still somewhat hard over an area of an inch and a half to two inches; pus exuded from the openings, of a thick, healthy character. As the bowels were a little constipated an extra dose of the magnesia and iron mixture was given in a tumbler full of hot water, before breakfast. Some boil-like masses which had formed upon the thighs had dried up, and he was feeling in excellent health and spirits.

His next visit was one week later, or eighteen days from the first visit. Three days previously a slough had come out of the central opening, nearly an inch in length, following which had come quite a gush of rather watery pus, as though it had been corked up within. The carbuncular mass had almost disappeared, and at the time of the visit there was scarcely any hardness, but some redness remained, with a little watery discharge from two small openings. Ten days later the only trace of the carbuncle was a small scar left by the central opening, perhaps a third of an inch in diameter, and a little general redness of the neck.

During this previous week he had been passing a considerable amount of urine, about three pints during the night, and as much during the day. The morning specimen stood at 1.035 and the evening at 1.038. The morning specimen contained a considerable quantity of uric acid in large crystals, and abundance of oxalate of lime; the evening specimen had a trace of albumen. Both specimens contained sugar in abundance, the morning specimen between three and four per cent., and that passed at night, at least five per cent.

We have here the history of a carbuncle of fully an average size and severity in an elderly subject with pronounced diabetes mellitus, running a comparatively short course, giving comparatively little constitutional disturbance, and not interfering with the daily attention to business. During the entire treatment there was no surgical interference, other than the slightest pressure occasionally, simply to learn of the amount of pus present, and not to evacuate it. The inflammatory process terminated in the production of openings through the skin which were sufficient to allow the escape of the pus, and the slough which formed was largely dissolved, and but a single mass remained, which escaped spontaneously through an opening hardly half an inch wide.

The treatment employed was that which I have followed repeatedly, for several years past, and, as far as I can possibly recall, with uniform success. Modifications may be required for particular cases, but in the main the principles of treatment are the same, and may be briefly detailed.

Locally I strongly object to warm applications, such as poultices, and have repeatedly replaced them by that above mentioned, with the greatest relief to the patient. From the first I order the application of an ointment, spread very thickly upon the woolly side of lint; the layer of ointment should be a third of an inch at least in thickness, and should not be pressed too hard upon the part. It is often desirable to place a layer of absorbent cotton outside the lint, and beneath the outside wrap, to make a softer dressing, and to take up any pressure or blow upon the part. This dressing is to be continued from the beginning to the end, being renewed as often as comfort or cleanliness demands.

In regard to the constitution of the ointment, I regard the ergot as an important element, and in certain cases where it was desirable to use it in a greater proportion in the ointment, I have prescribed the solid extract in place of the fluid, as used in this case. The zinc I believe has also somewhat of an astringent effect, and the rose ointment, I regard as superior to ordinary or benzoated ointment, as being much more soothing. Sometimes the heat of the part will be so great as to cause the ointment to melt away rapidly: it may then be made more solid with a greater proportion of white wax or with the addition of diachylon ointment.

The internal treatment employed in this case was also that which I consider to be of importance in this condition. There can be no question in regard to the power of sulphide of calcium in checking suppuration, and its power is often very strikingly manifested in carbuncles; one-sixth or one-quarter of a grain, given every two hours, is a very valuable aid in their treatment, but the article must be good and efficient, for there is danger lest an inert preparation be employed. When the drug is exposed to the air it changes into the sulphate of lime, or gypsum, which is valueless. It is best, therefore, always to use it in gelatine-coated pills, and these should be frequently tested by cracking them in the mouth.

The mixture of sulphate of magnesia, iron, and sulphuric acid is also important, as I believe, both for its tonic and refrigerant effects upon the skin, and also probably because of the increased amount of sulphur thus introduced in an assimilable form. It acts somewhat as a laxative, and its dose may be increased as required; taken in hot water before breakfast, it generally acts on the bowels very effectually.

It will be seen in this case that no specially supporting treatment was given; the patient was directed to take good, nourishing food, and no stimulants. I am convinced that stimulants would better be avoided when possible, though, of course, in special cases they may be absolutely demanded in order to support life where there is great sloughing and suppuration. I will not occupy time with any extended consideration of the subject of carbuncle and its treatment as presented in literature, as the matter is familiar to all. Many plans of treatment have been suggested, most of them, however, looking in the same direction, namely, toward giving artificial relief to the distended tissues, by incisions, caustic openings, cupping, etc. Some have urged pressure, and various counter-irritants have been suggested, but I can find no mention of such a plan as here presented, of a soothing and astringent ointment being applied from first to last.

In recalling earlier cases in which I had practiced free crucial incision, as commonly advised, with subsequent poulticing, and the large slough often formed, with its slow healing and subsequent scarring, together with the attendant pain and discomfort, and comparing them with later cases, treated as here detailed, I am more than convinced that incision should be avoided if possible. I feel confident that absorption frequently takes place through the wounded blood vessels and lymphatics, often induces blood changes, which does not occur when nature makes the opening, sealing the vessels as it proceeds.

The points of importance in the treatment of carbuncle, as here advocated, may be summed up as follows:

1. The very careful avoidance of all unnecessary irritation of the inflamed the early surface, as by friction, pressure, handling, squeezing, etc., both during the early and later stages.

2. The avoidance of all warm and moist applications and dressings, such as poultices, etc., from the first to the last.

3. The avoidance of incision, the entire process of opening and discharge of the pus and slough being left to nature.

4. The avoidance of stimulants, except in cases absolulely necessary to sustain life and strength.

5. The perfect protection of the inflamed part, from first to last, by means of

an ointment (preferably one containing ergot and zinc) thickly spread upon lint and changed as often as comfort and cleanliness require.

6. The administration from the first of sulphide of calcium in small doses, every two hours, great care being taken to secure an active and strong article, that in gelatine-colored pills being the best.

7. The support of the system, not by stimulant food and medicine, but by securing a healthy performance of the functions of the system, with nutritious and healthful food, with fresh air, and every agency which can aid to this end.

8. The remedies required are an occasional laxative, a slight sedative, such as Dover's powder, at times, to procure sleep, and a refrigerant and tonic, such as is found in a mixture of sulphate of magnesia, sulphate of iron, and sulphuric acid.

The advantages observed to follow this line of treatment may be briefly stated.

1. A comparatively short duration of the entire process.
2. A comparatively small amount of pain.
3. A comparatively small amount of scarring.
4. The avoidance of a surgical operation.
5. The avoidance of detention in bed.

In conclusion I would add, however, that the plan of treatment here advocated is not put forth as that which will invariably be successful, although in my hands it has yielded infinitely better results than any other. The duration of all the cases has been comparatively short—in the case here detailed it was hardly three weeks from beginning to end. Dr. Moore, in Ashurst's surgery, states that the average time of healing in thirty-five cases, in St. Bartholomew's Hospital, was about seven weeks, while several months were sometimes required where the destruction of tissue was large. Certainly the pain and discomfort attending the cases treated on the plan here proposed has been very slight compared to that in others which I have treated by other methods. I shall look with interest for reports from others who may give trial to this plan of treatment.—*Journal of the American Medical Association.*

MORE EXAMPLES OF YELLOW FEVER "IMPOSITIONS."* BY STANFORD E. CHAILLE, M. D.

The following facts deserve recording, in order to guide the historian of yellow fever, to warn sanitary authorities against undue credulity, and to illustrate anew the time and labor frequently required to hoist truth from out the bottom of that well where it often lies concealed.

In New Orleans, in 1882, three cases of undoubted yellow fever died in one limited locality. Whether the disease was imported from Havana by the Marco Aurelio, or from Colon in the ballast of the Ile Marthe, was doubtful. The latter view was condemned with considerable indignation by the Board of Health of the State of Louisiana, which, its should be noted, has been, since April, 1884, in totally different hands. Bearing on this subject, the Annual Report for 1882 of the Louisiana Board contains the following:

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* This article is a continuation and the conclusion of an article on "Yellow Fever in Vera Cruz and Colon in 1882," etc., published in the January number, 1884, of the *New Orleans Medical and Surgical Journal*, and in the February number, 1884, of the *Sanitarian* of New York.

Seven pages (234–241) record much evidence to prove that there was no yellow fever in Colon in 1882. Among other witnesses the United States Consul, James Thorington, says "that there has been no yellow fever there for the past ten years, except two years ago last May." Another consul, a doctor, several newspapers, and the President of the Board of Health at Panama, Dr. Wallis are all quoted in full, and to such effect that the Louisiana Board drew therefrom these conclusions:

"From the preceding courteous and valuable communication of President Daniel Quijano Wallis, it is evident that during the spring, summer, and autumn, up to the 13th of October [1882], the actual sanitary condition of the ports of Panama and Colon was good, and that they were free from such epidemic and contagious diseases as small pox and yellow fever.

"Even if the ballast, which was accused by the representatives of the National Board of Health and the Medical Director of the New Orleans Auxiliary Sanitary Association of engendering yellow fever in New Orleans in 1882 had been received from Colon (which it was not), the testimony of the men best able to settle this question proclaims the absence of yellow fever from both Panama and Colon (Aspinwall).

"The ballast of the Ile Marthe was taken aboard in the port of Cardenas, Wales, and not in the port of Panama, as shown by the records of the Mississippi Quarantine Station and of the United States Custom House."

These quotations show that the Louisiana Board maintained that the ballast of the Ile Marthe did not come from, and that there was no yellow fever at, Colon, and therefore that said ballast could not be infected. The results of these conclusions were, that said ballast was discharged in June upon a wharf in a thickly settled locality; that some of it was used, a few days thereafter, to repair streets; that, two days after the discharge, the first case of yellow fever occurred in a house very near the pile of ballast; that this ballast was denounced as suspicious; and that, thereupon, the Louisiana Board exonerated itself from all blame by such statements as those above quoted.

Facts will now be presented in proof, first, that there was yellow fever at Colon; and second, that the ballast of the Ile Marthe did come from Colon, and not from Wales.

Having been assured that Dr. Wallis was a reliable gentleman and worthy of his official post, I was induced to examine critically the official document which the Louisiana Board designated "the preceding courteous and valuable communication of President Daniel Quijano Wallis." This document is published in Spanish by the Louisiana Board, and, on reading its translation, I was, in view of the statement of its contents made by the Louisiana Board and quoted above, exceedingly surprised to find that what Dr. Wallis really said, October 13, 1882, was as follows: "The actual sanitary condition of the ports of Panama and Colon is, generally speaking, good, as there does not prevail at present any one of the usual epidemic diseases; it being a well-known fact that small pox, *yellow fever*, and the malarial fevers in their numerous varieties and forms *are never missing* in these intertropical regions, where *they are truly endemic*." My interpreter absolutely refuses to translate *the original Spanish* of this sentence, into "the absence of yellow fever from both Panama and Colon."

Farther, a resident physician of Panama and an ex-member of its Board of Health, published November, 1884, the following:

Yellow fever "is and has been endemic since the epidemic of 1868. There were many deaths in Colon in 1882 from it, as well as a number among the shipping. Of twenty-seven cases admitted to the Canal Hospital there, from June to October of 1882, it is said on excellent authority, that eighteen died." A well-informed and, as I have reason to believe, a thoroughly reliable correspondent has added to the above the following evidence: There were in the Canal Hospital at Colon, May-September, 1882, twenty-nine cases of genuine yellow fever, of whom nineteen died; Dr. Seary, an American, died in May; the lady Superintendent of the hospital died in July; and there were numerous cases in the shipping, Dr. Hitchcock having attended three cases on one vessel. Assurance was farther given that there were cases of yellow fever at Colon, in every month beginning with May, and that the difficulty of securing the truth resulted largely from the fact that the truth conflicted with the interests of the Canal Company, the influence of which now predominates on the Isthmus.

Although I, as an officer of the National Board, and some others, contended in 1882 that probably yellow fever was present in Colon, and that the ballast of the Ile Martha did come from there, and therefore that measures to prevent the importation of infection should be vigorously enforced, none the less it has taken two years to secure the facts which have been and are to be stated. Those already stated seem to prove conclusively that there were many cases of yellow fever in Colon and its harbor in 1882, there having been not less than twenty-nine cases *solely* in the hospital. Yet, during the period of their occurrence, the evidence was such as not only to induce the Louisiana Board to maintain that there was no yellow fever at Colon, but also to induce the State Quarantine officer to report to said board, September 19, 1882 (see p. 278, Annual Report), as follows:

"During the past twelve months the existence of a single case of yellow fever, at Colon or its surrounding country, has not come within my knowledge, and furthermore I am thoroughly satisfied, if there had been a case, I would almost certainly have heard of it, as I have availed myself of every opportunity to question various persons arriving from Colon in regard to this particular disease, not to speak of the bills of health of the United States Consul (a most reliable authority), all of which have been *clean*. The ship Ile Marthe is one of the cleanest sailing-vessels arriving at this port, and, as far as I could learn from her captain, has never had any contagious or infectious disease on board. She had 400 tons of ballast on board upon her last arrival at this station, 100 of which was iron and 300 rock."

From whence came this 300 tons of rock-ballast which gave rise to so much discussion and recrimination?

The Louisiana Board officially declared that "the ballast of the Ile Marthe was taken aboard in the port of Cardenas, Wales, and not in the port of Panama [should be Colon], as shown by the record of the Mississippi Quarantine Station and of the United States Custom House." Whatever may have been recorded at the Custom House and at the Mississippi Quarantine Station by the State officer, it is none the less true that the quarantine officer of the National Board of health, at said station, was informed by the officers of the Ile Marthe that the 300 tons of rock-ballast came from Colon, and he so recorded it in his official report, which was sent both to the National and to the State Board. Does experience justify the supposition that the officers of the Ile Marthe made a false statement immediately on the arrival of the vessel and at the time it was unsuspected, and, subsequently when the vessel became suspected, that these officers then corrected their falsehood and told the truth?

In any case, the ballast did come from Colon, as has been at last conclusively proved by the following copy of an official document, the original of which I hold in my possession.

"Consulate of the United States of America,
At Colon, February, 28, 1885.

"*May* 27, 1882. *Ship Ile Marthe,* 300 *tons ballast, at* $2.50 - $750."

"I, the undersigned, Consul of the United States of America for Colon, and the dependencies thereof, do hereby certify that the above extract is a true and faithful copy of an original entry on the books of the Panama Railroad Company, the same having been carefully examined and compared by me and found to agree word for word and figure for figure.

"Given under my hand and the seal of this Consulate at Colon, this 28th day of February, 1885.

"R. K. WRIGHT, JR.,
"U. S. Consul, Colon."

Surely it is well worth the consideration of all boards of health, and of all quarantine and sanitary officers, that in 1882 such evidence was presented to the Louisiana Board of Health that it was induced to proclaim that Vera Cruz was "known to be at present perfectly healthy," and yet the board was "imposed on;" that yellow fever was absent from Colon, and yet the board was imposed on; and that the ballast of the Ile Marthe came from uninfected Wales, and yet again the board was imposed on. Worse still, the public was taught to regard the few sanitarians who were not imposed on as enemies to the commerce and prosperity of New Orleans.

For the benefit of those who may now or hereafter take such interest in the subject discussed as to desire a fuller statement of the facts, reference is made to the following sources of information: *The New Orleans Medical and Surgical Journal*, pp. 227-233, September No., 1882, and pp. 526-535, January No., 1884; the Annual Report, 1882, of the Board of Health of the State of Louisiana, pp. 230-241; the Annual Report, 1882, of the National Board of Health, pp. 504-505; and the *Sanitarian*, New York, pp. 137-145, February No., 1884.—*New Orleans Medical and Surgical Journal.*

ACTINOMYCOSIS IN ENGLAND.—Some incidental remarks made at a recent meeting of the Pathological Society revealed the existence of the first genuine instance of Actinomycosis in this country. The case occurred, we believe, in the practice of Dr. Harley at St. Thomas's Hospital, the post-mortem examination being made by Dr. Sharkey, and the microscopical examination by Mr. S. G. Shattock, curator of the museum. As the disease in man has only been recognized within the past decade, and as no cases have hitherto been recorded in this country, it is not surprising that but few members of the profession in England should be acquainted with it. A valuable clinical contribution to our knowledge of the affection in man has recently appeared from the pen of Dr. J. Israel.* In 1882 Professor Ponfick published an almost exhaustive monograph on the disease, in which most of the facts then known were embodied. From questions which have been addressed to us, we believe that a brief account of the elemental features of the affection will be welcomed by the majority of the profession, to whom the malady is unknown. The affection is presumably one which is dependent on the presence and activity of a micro-organism. The micro-parasite is a member of the fungoid class, and consists chiefly of a mycelium which divides in a dichotomous fashion, and gives rise by its spread from a center to a radiate appearance, whence its name—actinomyces—is derived. The circumferential ends of the mycelial sprouts have a flask-shaped swelling. The little masses of felted mycelium may be recognized by the naked eye as sulphur-yellow bodies of about the size of a hemp-seed. The disease which this parasite is supposed to cause may develop in many parts of the body. The most common site appears to be the jaw and parts bounding the mouth. The affection in animals has long been known in this situation under various names, and has been regarded as a form of scrofula and as a new growth. It is believed that the parasite gains an entrance through the medium of a carious tooth or some wound of the gum leading to the jaw-bone. There is but little to be said of the morbid anatomy of the disease. A swelling forms in the jaw, and gradually increases in size. This tumor in its earliest stages may be punctured without any matter being let out, although it generally has an elastic and semi-fluctuating consistence. A section made into a tumor in the early stage of its existence shows a reddish-white area sprinkled in places with gold-colored granules. Later on abscesses and fistulæ form, in the discharge from which the silver-colored bodies may be seen. Broadly speaking, the tissue of the morbid new growth, which must be regarded as inflammatory rather than sarcomatous, has very much the characters of ordinary granulation tissue. Actinomycosis may occur primarily in the respiratory tract proper, and Dr. Israel makes this class of cases his second group. He narrates a case in which the disease was localized to the bronchial mucous membrane. The patient was a girl aged fifteen, who suffered from the signs and symptoms of chronic bronchitis, with fetid expectoration, in which the actinomyces were readily discovered. Another case of a man, aged twenty, is given, in which the primary localization of the disease was in the parenchyma of the lung; it was afterwards propagated to the pleura and to the prævertebral tissues. Some of the cases have many of the clinical characters of empyema with discharging sinuses, and in such cases a complex system of fistulæ not unfrequently undermines the morbid tissues. The structures in the posterior mediastinum and prævertebral regions are often affected, and the bodies of the vertebræ may become carious. Dr. Israel makes his third group of cases include those in which the disease begins primarily in the intestinal canal. In some of the cases the foci of the disease are widely disseminated. The liver, spleen, muscles of the back, and muscular substance of the heart have been shown on post-mortem examination to have numerous centers of actinomycosis. Large abscess cavities may form behind the peritoneum as well as behind the pleura, and these may communicate by many perforations of the diaphragm. The symptoms necessarily depend chiefly on the localizations of the disease as well as on its rate of progress, and present therefore extremely varied clinical pictures. Dr. Israel's work contains an account of thirty-eight cases, which number includes all that have hitherto been recorded.—*Lancet.*

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* Klinische Beiträge zur Kenntniss der Actinomycose des Menschen. Berlin: A. Hirschwald.

CONSTIPATION AND ITS EFFECTS.—We are frequently reminded, in the history of a very common ailment, how the beginnings of mischief in the body, which as yet mean no more than disease or disorder in its literal sense, may, if neglected, go on to very serious terminations. The causes of constipation are various, and often trifling. Indigestion, whether from torpid function of the mucous membrane, or from too great solidity or bulk of food, must overload the bowel if neglected. Acting with it, to the same purpose, is the want of due muscular exercise. At a later stage of the process, we find the long abused bowel lose its tone and flag in aiding the transit of its contents. In the aged, the same result follows from paralytic inertia. Another retarding element is frequently met with in women during pregnancy, in the enlargement of the uterus. Pressure on the gut by abdominal tumors should not be forgotten in assigning an origin to fæcal retention. Here, however, we encroach upon the graver state of mechanical obstruction, a state practically distinct from that of simple constipation, and therefore, outside of the scope of these remarks.

Depending on many causes, constipation is apt to show a like uncertain and insidious character in its onset, development, and end. One is often self-deceived in it, and not uncommonly the bowel is believed to act regularly, when its presumed regularity has reference only to time, if indeed to that, while the amount of excretion is always too meagre to give adequate relief to organs which may be amply supplied with daily food. Every practitioner has been astonished to note to what an extent the accumulation is sometimes allowed to proceed. The sacculated structure of the greater bowel favors the lodgment of excreta, its power of distention allows the stowage and gradual absorption of the gases contained in it; and thus there may, for a long time, be no great discomfort and no absolute blockage to call for immediate measures of relief. The cæcum and left colon are particularly apt to be the seats of fæcal impaction, when this event occurs. We must thus explain many cases of typhilitis with iliac abscess; and these are but extreme examples of the irritative inflammation in the gut and its surroundings, which is frequently the first grave symptom in a history of costiveness. Some forms of general chronic peritonitis, such as one occasionally finds to be associated with no very clear details of past abdominal disease, may also have arisen in this way.

Another and somewhat different kind of diseased action may follow fæcal irritation. It is seen in the convulsive seizures of children from retention of scybala, and in the anæmic neuroses of girls and women, whose languid and sedentary habits induce a similar condition. How much to assign to cause or effect in the case of the latter may be open to question, but the benefit which is gained by the action of purgatives in arresting the general nervous irritability is not without its meaning. It illustrates the arrest of weak and fruitless reflex action by the removal of a peripheral source of annoyance. Nature herself, by setting up an irritative and slight diarrhœa, exemplifies a method by which the harrassed nervous centers often find relief. This reflex secretion, gentle, gradual, and usually insufficient, has puzzled many in making a first diagnosis between the two opposite states of excretion, which are for the time being acting together in a disguised relationship. It affords also a valueable suggestion as to treatment in difficult cases. In any ordinary case of constipation without urgent symptoms, the physician naturally has recourse to aperients. He may choose a drastic purge or the gentle enema. He follows an old and trite rule in so doing, one of common experience rather than of the medical art. When, however, he has to deal with a resultant inflammation, as well as a probable mass of excreta, his views are apt to change. He betakes himself to opiates, considering, not without reason, that the effect has outgrown its origin, and alone requires attention. There are extreme cases where such treatment is sound; but we have known others in which it has been prematurely adopted, to the total exclusion of that other principle of gradual relaxation and detachment, which we have shown to be one of the expedients of nature. On the other hand, the progress of recovery, even from states of acute local and general disturbance, has often been observed to tally with the use of the blander aperient remedies, such as salines or enemata in combination with sedatives, preferably those, like belladonna or hyoscyamus, which are at the same time aids to intestinal excretion. Iliac abscess would probably be less common if such means of cure were now and then allowed to encroach upon the purely narcotic treatment. To avert the worse consequences of constipation, therefore, it is commonly necessary to pursue, though with adequate modification, a line of treatment not dissimilar to that which acts, along with consideration for the cause, in correcting the costive tendency itself.—*Boston Medical Journal.*

On the Abortive Treatment of Typhoid Fever.—We occasionally read of the so-called abortive methods of treating typhoid fever, but do not think they are frequently resorted to in general practice in this country. The treatment with calomel, which belongs to this category, could hitherto claim but little success in either aborting the affection or influencing its severity. Dr. Kalb (*Wiener Med. Bl.*, Jan. 29, 1885) claims that it is not the remedy which is at fault, but the mode of its administration. Mercury introduced through the digestive tract ultimately reaches the intestines, where, on account of the lesions of the fever, absorption is greatly impeded or partially prevented. This led Kalb to employ mercurial inunctions, and he states that he has obtained very favorable results in more than one hundred cases of tyhoid fever.

Being called to attend a case which he suspects to be typhoid fever, Kalb orders ungt. hydrarg. ciner. ʒiss, to be divided into six equal parts, the first to be rubbed into the abdomen on the first day for about half an hour. The second part is rubbed into the inner side of one thigh on the second day, after having carefully removed the previous inunction of the abdomen with soap and warm water. The third part is similarly applied on the third day to the other thigh ; the fourth part again on the abdomen ; the fifth and sixth again on the thighs, all inunctions being made in the evening. Internally, calomel in ½-grain and opium in ¼-grain doses were given every five hours in capsules. Aside of alcohol (cognac and arac in water or coffee) in larger doses, nothing else was allowed.

On the second day the temperature fell a little, but rose again to its proper height, and became stationary for seven days. On the eighth day, *i.e.*, the second day after the completion of all inunctions, the temperature fell to its normal standard and, slight variations excepted, remained normal. The general state of the patient did not differ from that observed under the routine treatment. In rare cases the temperature was noted to fall even during the inunctions, but to obviate the risk of an eventual rise it is advisable to complete the six inunctions as stated. The pulse was generally, for several days more, 100 or 120, but fell sometimes simultaneously with the temperature to normal. Profuse perspiration and general improvement nearly always followed the reduction of the febrile temperature ; a slight bronchitis and splenic engorgement being the only patent pathological conditions which persisted for some time.

Kalb does not wish to present the inunction treatment as an infallible cure, but simply to point out its unquestionable superiority to any other treatment. He claims that eighty per cent. of those treated with inunctions present a normal temperature within ten days, counted from the beginning of the inunctions. This treatment, though, can only be successful when begun before the appearance of the rose-rash.

To obtain comparative results, Kalb has repeatedly treated typhoid fever patients in the same ward with this inunction method and other modes usually resorted to, but found the difference in the results in favor of the former so striking that all patients insisted upon the inunction treatment.

Salivation having never been observed in any patient, Kalb concludes that typhoid fever patients are not subject to mercurial stomatitis. The danger of profound constitutional depression resulting from the withdrawal of all food must be promptly met with a persistent and energetic alcoholic stimulation. Relapses appeared to be as frequent, or even more frequent, than in ordinarily treated patients, but were always traceable to a dietetic error.

Kalb acknowledges that the robust constitution of the people upon whom the observations were made had some influence in determining the type of the fever, but holds that the inunction treatment could always abort fifty per cent. of all typhoid fever cases. This being a higher percentage than has ever been obtained in this country with any form of treatment, it seems worth while to try Kalb's method in hospital practice, and compare the results with those obtained with the ordinary expectant treatment of typhoid fever. Of course uncertainty in the diagnosis detracts greatly from the value of any deductions made from the above statements.—*Therapeutic Gazette.*

RESUME OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

DYSMENORRHŒA AND STERILITY.—In the *Progrès Médical* Dr. Decoux publishes the following interesting case of dysmenorrhœa and sterility cured by the use of phosphide of zinc.

Madame X———, twenty-four years of age, married five years, has always suffered from painful and irregular menstruation. She has never had any children. She has been subjected to numerous kinds of treatment, concerning which she can give no very satisfactory explanation, but none of them have afforded her the relief desired. It was under these circumstances that she came to consult me. Having already cured several cases of dysmenorrhœa and amenorrhœa by the use of phosphide of zinc, I gave her this remedy in the quantity of sixteen milligrammes a dose, that is two milligrammes of phosphorus. In other words, two granules of four milligrammes at the morning meal and two at the time of taking the evening meal.

She had been following the treatment for twenty days, when the menses appeared without the least pain. I caused her to continue the same dose for a month, in order to secure the effect of the remedy upon two consecutive periods ; but the menses did not appear. The young woman had become pregnant. She was delivered of a daughter, nursed her, and the eleventh month the menses reappeared quite as painful as before. Eight months passed thus. Worn out at last, she decided to be treated, and she again took the phosphide of zinc. But matters went on pretty much as in the first instance. The menses returned twice without pain, and the third month she became pregnant. No one could deny, in the presence of these facts, the correlation which exists so frequently between sterility and dysmenorrhœa, the possible cessation of one after the disappearance of the other, and finally the truly typical effect of the phosphide of zinc, acting thus upon two conditions at the same time. This fact appears to me interesting to note, and I might find many others to the credit of phosphide of zinc, if I had recorded the numerous cases which I have observed ; hysteria, neuralgia, ataxia, anamia, etc., in which this medicine has given me unhoped for results. Therefore I regret that the phosphide of zinc is not more employed in France, whether from want of sufficient studies of its action, or from the fact of the bad quality of the medicine, which, failing to yield satisfactory results for this reason may have discouraged those who would have been willing to try it.

A word upon this subject. Phosphide of zinc acts, like all the preparations of phosphorus, under the form of phosphuretted hydrogen. However, notwithstanding it contains chemically the fourth of its weight of phosphorus, it acts as if it contained only the eighth, half of it not being absorbed. This, then, is a fact that is perhaps too often overlooked. In order to administer a milligramme of phosphorus, it is necessary to give eight milligrammes of phosphide of zinc. What takes place when one employs granules containing one milligramme, as we have seen them ? No result is obtained and the failure is attributed to the medicine.

Another thing. The phosphide of zinc acts only when it is chrystallized. Amorphous, it is inert. But its preparation is to such a degree difficult, that with the exception of one brand, very well known, it is true, we seldom find in commerce anything but an impure product, entirely or partially inefficacious.

The Germans, who employ phosphorus on the largest scale, seem to know nothing about the phosphide of zinc. They make use of phosphuretted oil or of pills. These are extremely variable preparations, the energy of which diminishes to disappear totally in a few days ; and yet they obtain successful results so numerous that their journals are constantly filled with observations upon this subject. Dr. Kassowitz, of Vienna, has published alone, a résumé of five hundred and sixty cases relating especially to rachitis; and he affirms, as do also Drs. Soltmann, of Breslau, and Hagenbach, of Bâle, that phosphorus is the veritable specific for rachitis. What would we not obtain ourselves, if after their example we extended the so numerous application of phosphorus, in employing the phosphide of zinc, the action of which may be in a manner calculated mathematically, and, the management of which, contrary to that of phosphorus, is as simple and as harmless as is, for example, that of arsenic.

There is in fact no accumulation to be feared, elimination being complete the third day; and should too large a dose have been given by mistake, there is nothing to fear, because vomiting immediately supervenes and arrests the action of the medicine, which does not take place in the greater part of the very active agents of the materia medica, and especially in the case of phosphuretted oil. H. McS. G.

HOW TO PREVENT SEPTICÆMIA IN CASES OF MORBIDLY ADHERENT PLACENTA (Keith Norman Macdonald, F. R. C. P., Edin., F. R. C. P., Lond., in *British Medical Journal*).—With the exception of *post-partum* hæmorrhage adherent placenta is one of the most troublesome after-consequences of the lying-in state. It is, moreover, much dreaded by many practitioners, owing to the probability of septic matter finding its way into the circulation; but that an ordinary case need not give rise to any extraordinary alarm, the following history well illustrates: Mrs. S., aged 38, six years married, and mother of one child, five years having elapsed since her last confinement, which was a forceps case, with partial placenta adhesion, was taken in labor at midnight of December 29, 1884. The case was apparently natural; the second stage was rather prolonged, owing to the head resting for more than an hour on the perinæum, but was completed at nine o'clock, two hours after my arrival at the house, there being nothing unusual about it, except that the child, a female, appeared feeble, and the cord was unusually small. During twenty minutes she retched several times, though firm compression was applied externally: she said that she had done so during the entire period of her pregnancy, and also had a "pain in her side." After this interval he tried to remove the placenta, but found that it was adherent to the fundus of the uterus, and, as far as he could make out, all round. After a further delay of half an hour, he re-introduced his right hand, carbolized, made firm traction on the cord, and tried to peel it off, but it was of no use. The contractions of the uterus prevented his getting hold of the edge of the placenta, and as he could remove nothing but clots of blood, he dug his fingers into its substance, and removed two small pieces. He then applied a firm binder with pad, gave her some whiskey and ergot, and left her for a time. At 7 P. M. the same evening, with the assistance of Dr. Whitelaw, she was put under the influence of chloroform, when he again introduced his hand, carbolized, into the uterus, and removed a quantity of clots, but could make no impression upon the still firmly adherent placenta. He then bound her well up, gave an opiate, ergot, and brandy, and left her for the night; after syringing the uterus and vagina well with a weak solution of Condy's fluid.

December 30. She passed a fairly good night; retched once, and expelled a small coagulum of blood. The lochia were normal; the secretion of milk was established; pulse 94, and weak; temperature 99° Fahr. There was no tenderness over the abdomen, which felt fuller than usual. A solution of carbolic acid (1 in 40) was now substituted for the Condy's fluid, and five grains of quinine were ordered every four hours. He regards this as a very important step in the treatment, believing that the early use of an antiseptic lotion, and the free adminstration of quinine prevented the propagation of septic germs in the system.

On the morning of the 31st, after passing another good night, and nursing her baby in the meantime, she had a severe rigor at 10 A. M., when the pulse rose to 130, and the temperature to 105° Fahr. This was, in all probability, the beginning of blood-poisoning; but the assiduous application of the lotion and the continued administration of quinine evidently rendered the septic agent abortive, as all the symptoms subsided towards evening, and no tenderness on pressure over the abdomen was felt; and, as far as her feelings were concerned, she felt fairly well, though the secretion of milk was considerably diminished in quantity. On the morning of January 1, 1885, she had another rigor at 9 A. M.; and the pulse again rose to 130, and temperature to 104° Fahr. The milk was almost suppressed. After this the child was not again put to the breast. The lochia were slightly offensive but normal in quantity. The rigor began to subside towards mid-day; but the pulse and temperature continued high, but without any increase in the evening. Still there was no abdominal tenderness. On the morning of January 2, the lochia seemed more offensive. A small portion, about three fingers' breadth, of the placenta had come away. There were more rigors. Pulse still 120; temperature 103°.

On the 3d, the pulse came down to 96, and the temperature to 100°; the lochia were slightly increased, but there were no more portions of placenta However, on the morning of the 4th, another piece, much the same as the last, came away, and from that date she continued steadily to improve without a bad symptom. The lochia continued a little longer than usual, but in other respects, presented no features calling for remark.

REMARKS.—The most noteworthy point in the above case was the early stage at which the quinine was administered. He thinks if he had waited until there was a considerable rise of temperature, with abdominal symptoms, he should probably have been too late. As it is well known that this important remedy possesses the power of destroying minute organisms outside the body, it is but a reasonable inference that it should also destroy, at all events, certain micro-organisms forming, or about to form, within the body. It was with this latter intention that he resorted to it at such an early stage, and the result, he thinks, shows that he was justified in doing so. The removal of the clots, ten hours after the confinement, he also considers an important item, for if they had not been cast off, septic matter would probably have entered the system.

LECTURES.

CLINICAL LECTURE ON TYPHOID FEVER, ESPECIALLY WITH REFERENCE TO PROGNOSIS. Delivered at the Hospital of the University of Pennsylvania By WILLIAM PEPPER, M.D., LL.D., Provost of, and Professor of the Theory and Practice of Medicine in, the University of Pennsylvania.

Gentlemen.—The patient before you to-day was admitted to the hospital seven days ago. We could obtain no definite history, but, as far as could be learned, the man had been sick for two weeks before admission, with delirium, continuous fever, hemorrhage from the bowels, and, for a day or two before he came in, with cough and rapid respirations. From this account it is probable that he was admitted at the beginning of the third week of an attack of typhoid fever complicated with pneumonia. The course of the case during the past week is indicated by the following notes.

January 3 (day of admission). There were no evidences of blood in the discharges from the bowel. The face was flush, the tongue was dry and coated, and there were sordes on the teeth.

January 4. Had some delirium; belly moderately distended; several spots of typhoid-fever eruption were detected. There were several liquid stools, dark yellow in color. Shortly after admission the temperature was 103.4°. After this the temperature fell, and continued to diminish until two days ago.

January 6. More delirious, plucking at the bedclothes. Temperature not so high. Dulness over the right lower lobe of the lung posteriorly, and over the dull region the characteristic crepitant rales are heard. There is retention of urine, it being necessary to use the catheter. Temperature between 101° and 102°.

January 7. Still further fall of temperature. The dulness over the posterier portion of the chest is extending upward, having now reached the third rib. The restlessness, delirium, and plucking at the bedclothing have continued.

These symptoms continued through the 8th, but during the night of the 8th the temperature began to rise, and yesterday morning (the 9th) it stood at 101°. Last night it was 102.5°, and it is the same this morning: so that there has evidently been a renewal of the fever.

The treatment has been one of active stimulation. He has taken as much milk as we could get him to use, giving it in comparatively small quantities repeated every hour or hour and a half, with a small quantity of whiskey, so that he has averaged one ounce of whiskey every two hours since admission. In addition he has taken turpentine. I would mention that, since admission, the bowels have been opened only once each day, with the exception of one day during which there were four stools, and again three days ago, when twenty-four hours passed without any stool. He has borne the turpentine mixture very well. For the excessive restlessness which he has presented he was last night given nine grains of musk.

We find our patient, then, this morning, at the beginning of the fourth week of the attack, delirious, with from time to time rolling of the head, with very little intelligence, with the mouth partly open and the teeth and lips coated with dry sordes. These sordes are nothing but the foul secretions of the mouth dried by the passage of the air over them. When a patient with typhoid fever has no obstruction of the nostrils, and retains sufficient intelligence to breathe through them, and keeps this up during sleep, sordes do not form so much ; but when the patient sinks into a typhoid state, with dulness of mind, breathing is carried on through the mouth, and the secretions are rapidly dried and form crusts. This largely owing to the fact that, as a result of the high temperature and the perverted state of the secretions, all the buccal secretions are thick and viscid and readily dry with the formation of crusts.

When told to protrude the tongue, he does so better than he did a few days ago. It is coated with a grayish-brown fur. As I have already stated the temperature this morning is 102.5°. The pulse is very small, compressible and 140 per minute. The temperature is well kept up ; the hands and feet are warm. For the last day or two the distention of the abdomen has been very great, and in order to remove this tympanitic condition turpentine stupes have been used every couple of hours during the night, and this morning the distention is somewhat reduced.

I shall not disturb him to demonstrate the signs of pneumonia. The dulness, however, does not extend anteriorly, and over the front of both lungs auscultation reveals the presence of vesicular murmur mixed with coarse rales, chiefly bronchial, showing that there is considerable bronchial irritation of both lungs, with consolidation of the posterior portion of the right lung.

This case illustrates the difficulties attending the treatment of typhoid fever in hospital practice. This man, having received no medical care, no proper nursing and improperly fed, was admitted to the hospital at the end of the second week, by which time his vital powers had been exhausted and his digestion totally broken down, with diarrhœa of from four to six loose stools daily, which had been allowed to continue, and worse than all, with a pneumonia which very likely developed on account of his want of treatment. The late period at which he comes under treatment, the gravity of the nervous and abdominal symptoms, and the grave complication of pneumonia which he presents, make the prognosis unfavorable, and I expect this man to die. At the same time, the decrease in temperature which has taken place during the past four or five days until night before last, the subsidence of the diarrhœa, and the absence of vomiting are favorable symptoms, and hold out a hope of his pulling through. The great danger is that the weakness of the heart, which has resulted from want of proper care and proper sustenance, is such that it will be unable to stand the strain, and that we shall have symptoms of heart-failure, increasing pulmonary engorgement, disturbed capillary circulation, deepening stupor, and death. Forty-eight hours will settle the question.

The complications of typhoid fever may be divided into the nervous, the abdominal, and the pulmonary. It is curious how different cases will present these complications in different degrees of severity. Scarcely ever will they be found equally well marked. As a rule, when the nervous symptoms are marked the abdominal are not. The combination of marked nervous and pulmonary symptoms is more common. In some of the worst cases of the abdominal complications of typhoid fever, such as copious and intractable diarrhœa, hemorrhage, and great distention of the abdomen, the brain is perfectly clear. In the present case the abdominal symptoms seem to have been marked in the early stage. The man had more or less diarrhœa ; but this may have been due to want of proper care, for as soon as he came under proper treatment the diarrhœa ceased, and now he has but one stool a day.

We estimate the gravity of an attack of typhoid fever, in the first place, by the range of temperature. If the temperature is not above 104°, it is not an unfavorable sign. If it reaches 105°, but does not remain at that point, it is not serious. Anything above 105° we term hyperpyrexia, and this is a dangerous sign, particularly if the temperature remain almost continuously, day and night, above 105°. When, however, as in the present case, the temperature ranges between 101° and 104°, and does not exceed this latter point, it does not become a source of much added danger. In children and in sensitive women a temperature of 105° is often reached, and maintained for some time without serious danger. It is important to recognize this fact, for it will save the necessity of resorting to powerful measures to reduce the temperature. Far too much importance—or, rather, far too exclusive importance—is nowadays attached to the study of the temperature in febrile diseases. It is important, and should be carefully watched, for it aids both in prognosis and in treatment ; but the ease with which thermometric observations are made, their accuracy, as contrasted with the manner in which many other symptoms have to be studied, and the certainty which they seem to give in studying the course of the case, are apt to divert our attention to too high a degree from the study of the pulse, the nervous system, and the digestive organs ; whereas, as a matter of fact, the temperature in many cases is less important than information drawn from the other points to which I referred. Particularly I am sure that we allow our treatment to be governed too exclusively by this question of temperature, and are too prone to resort to powerful antipyretics, which sometimes are depressing, irritating, and disturbing. Many cases of typhoid fever do perfectly well without severe antipyretic treatment, even though the temperature be high. It is only when the nervous symptoms and the condition of the heart indicate that the high temperature, in the absence of other complications which would account for the symptoms, is acting as a disturbing element on the brain and the heart that it calls for active treatment. Then we should resort to any plan of antipyretic treatment which is efficient, as large doses of quinine or the external use of water. So long as the high temperature is maintained without manifest injury being inflicted on the brain or the heart, it is better to avoid powerful antipyretic measures and to allow the case to run its normal course. This is particularly applicable where there are complications which are of themselves sufficient to maintain the high temperature, and account for a certain amount of nervous irritation. Under such circumstances these powerful remedies often do more harm that good.

Among the indications to be considered in the prognosis I have mentioned the heart and the pulse. This is exceedingly important. I think that the study of the sounds of the heart—of the strength of the muscular or first sounds of the heart, the strength of the impulse, the way in which the artery fills at the wrist, how it resists pressure, the quality of the beat, the frequency of it, and its regularity—is of the first importance in the prognosis of typhoid fever and as a guide to treatment, particularly in regard to the important question of the administration of stimulants. You have a patient with a dry, brown tongue and marked nervous symptoms. It may be difficult to decide whether he needs remedies of a sedative character and perhaps counter-irritation, to quiet the nervous restlessness and draw the excitability from the nerve-centres, or whether he requires stimulation to raise the tone of the circulation and cause a healthier tone of action in the nerve-centres and thus bring about a secondary quieting or sedative effect. The best test of this is the action of the pulse and the influence of stimulants on the pulse. In a case where the pulse is from 120 to 140 per minute, very compressible, so that it collapses under the slightest pressure, with an exceedingly weak first sound, so that it assumes almost a valvular character, stimulants may be given freely ; and under their use, as a rule, the temperature will fall, dryness of the mouth will lessen, and the nervous symptoms will improve. These results indicate that the stimulants are doing good, and encourage us to continue or to increase them.

This man needs free stimulation, and if he can stand one ounce of whiskey every hour we will not hesitate to give it to him through the next two or three days, to tide him over this crisis, for unless the heart is kept up I fear that he will die in the way which I have mentioned.

Symptoms referable to the abdominal organs afford some help in prognosis, but they are not as reliable as the evidence presented by the temperature and the circulation. The amount of diarrhœa which the man has had has not been very serious, but yet I think that diarrhœa in typhoid fever is not a good thing. I do not regard it as an evidence of the efforts of nature to eliminate the poison from the system. On the contrary, it is to me an evidence of active disease in the intestinal canal, of imperfect digestion of the food taken, of the presence in the intestines of putrid, irritating secretions. It is undoubtedly better that such irritating secretions should be discharged.

than that they should be locked up in the bowel to undergo putrefaction and probably furnish fresh poison to be absorbed. If, however, by regulated diet, by the avoidance of irritating remedies from the earliest moment that typhoid fever is suspected, and by the use of remedies suitable for the disease of the glands which is certainly going to develop, we can render the matters which enter the intestine so easily digestible and assimilable that they will not putrefy, we may keep the secretions in a less putrid state, and thus diminish the diarrhœa. I think that the early treatment of a case of typhoid fever has more to do with the state of the bowel than anything else. It frequently happens that when a patient presents himself to a physician in the early stage of typhoid fever he is given a laxative, with the idea that he is suffering from a slight catarrhal attack from irritating matter. As you know, one of the early diagnostic signs in the early stage of typhoid fever is the remarkable effect from a laxative. It will produce several loose stools ; and when the physician sees this his attention is directed to the possibility of the case being one of typhoid fever. But I do not know that much is gained by this therapeutic test. Suppose the case were only one of catarrh of the intestine, allowing the bowels to remain quiet would prolong the case only twelve or twenty-four hours, the irritating matters would be discharged, and the patient would have taken nothing to increase the trouble ; but if the case is going to be one of typhoid fever, the patient has on the brink of ulceration a number of glands throughout the intestinal canal, and then I think that even the mildest laxative is undesirable and may be directly harmful. I have no doubt that many cases of typhoid fever have this intestinal element, and are made serious by injudicious management during the first forty-eight hours. What is wanted is absolute rest, absolute diet, and absolute avoidance of direct medication until the disease indicates what it probably is going to be. When diarrhœa is present, it is to be checked, not by the use of opiates to lock up the bowel, but by reducing the food taken until we obtain that which can be absorbed. The ordinary principles of alimentation are as true in typhoid fever as they are in health. It is not that which is put in the stomach that does good, but it is that which the stomach is able to absorb and appropriate and put in such a condition that when it enters the intestinal canal it shall be readily absorbed. It is useless to pour three ounces of milk one hour and three ounces of beef-tea the next hour into a patient who is not really absorbing more than half an ounce in the twenty-four hours. The more food is given under these circumstances, the more is digestion deranged' Fermentation takes place, and the abdomen is greatly distended from the accumulation of gas. I should try to check the diarrhœa by reducing the diet to a point where the patient is able to assimilate it, by the use of remedies directed to heal the irritated mucous membrane, and by the use of opiates only in small quantities. Opiates to check the diarrhœa of typhoid fever usually do as much if not more harm than good. A continuance of diarrhœa is often well borne, particularly if the stools come from the lower bowel as a result of the discharge from the ulcers, and do not come from want of absorption of the nourishment which is taken. If they are not associated with great tympanitic distension of the belly, or with marked failure of the pulse, or with severe nervous symptoms, a certain number of loose stools may be borne without particular harm. When, however, there is continued diarrhœa, with frequent copious stools, particularly if discharged unconsciously, with distention of the abdomen, showing that the intestinal muscles and the muscles of the abdominal walls are paralyzed, the prognosis is extremely bad, for such diarrhœa is apt to prove uncontrollable.

Another symptom referable to the abdominal condition of the intestines is hemorrhage. Hemorrhage from the bowel often occurs as a hemorrhoidal discharge and means nothing serious. Slight hæmorrhages occurring early are not of evil omen, and hemorrhage occurring at the time that the sloughs are cast off may not be serious ; but where the bleeding is frequently repeated and the amount lost is large, and where it is associated with diarrhœa and great tympanitic distention of the abdomen, it indicates such prostration of vitality and such dyscrasia of the blood as to render the prognosis very unfavorable.

The tympanites which this man has had amounted to a serious trouble ; and sometimes the tympanitic distension goes so far as to constitute an important element in the prognosis. It indicates, in the first place, a paralytic state of the muscles of the abdominal walls ; and in the second place it indicates fermentation of the ingesta and deficient digestion and absorption. This distention, by its pressure upward, causes marked interference with respiration and adds greatly to the effects of any pulmonary trouble which may coexist. Distention of the abdomen in typhoid fever should be studied in this way so as to be traced to its proper cause. If it is the result of muscular debility, it will be helped by stimulating applications. Strychnia is particularly useful in these cases. If it is the result of fermentation of the ingesta, it may often be diminished by peptonizing the food and by the internal use of carbolic acid and creasote, which will lessen fermentation. Where the accumulation of gases interferes with the action of the diaphragm an attempt should be made to draw off the gases by a rectal tube. This operation usually has to be repeated, and I have even been forced to puncture the abdominal wall with a hypodermic needle to draw the gases from the intestine ; and I have seen patients recover where I have had to do this on several successive days on account of interference with respiration. As a rule, however, when it comes to this point death follows.

I shall add to the large amount of alcohol which this man is taking one-fortieth of a grain of strychnia four times a day. This will be dissolved in weak alcohol and water and thrown under the skin of the abdomen.

The pulmonary symptoms of typhoid fever afford very important elements in prognosis. We should never let a day pass without examining the lungs and heart of our typhoid fever patients. A certain amount of bronchial irritation is an almost constant element in typhoid fever. Usually by the end of the second or during the third week we find hypostatic congestion, with a little impairment of resonance, weak vesicular murmur, and crepitant rales on inspiration on the lower lobes behind. This we consider an almost inevitable feature of the disease; but when, instead of merely a hypostatic congestion, the disease, as here, goes on to consolidation, and, as you observe, is unilateral, not symmetrical as is hypostatic congestion—not limited to the lower lobes, but involving first the lower lobe and then extending to the upper lobe, with bronchial respiration and with coarse, crackling rales—we know that it is not merely an exaggerated degree of that congestion incident to the disease, but that it is a real complication, a croupous pneumonia.

As I have said on another oocasion, the typhoid state and pneumonia present different relations to each other. Pneumonia may be present and run into the typhoid state. This really is typhoid pneumonia. Again, there may be typhoid fever and pneumonia occurring as a complication ; but this has nothing to do with typhoid pneumonia. It is typhoid fever. The pneumonia is a purely intercurrent, accidental phenomenon, a true complication, —and it is a complication of great gravity. Sometimes it takes the form of catarrhal pneumonia ; and this is even worse than croupous pneumonia. It is apt to be associated with extensive collapse of the lung. The areas affected multiply and spread, and exudation and softening occur ; so that, on the whole, catarrhal pneumonia complicating typhoid fever is even more unfavorable than croupous pneumonia, except the extent of the latter be very great ; but either of them is a grave complication and adds largely to the mortality. If it comes upon a patient with typhoid fever, already reduced by other symptoms, as diarrhœa, and who presents evidences of nervous exhaustion and failure of cardiac power, the chances are that the patient will die. The prognosis is rendered graver by the existence of the serious pulmonary complication, and this is an indication for vigorous stimulation. The amount of alcohol should be increased, as much concentrated nourishment as the digestive organs will stand should be given, and carbonate of ammonia and turpentine administered internally. In this case turpentine in the dose of ten drops in emulsion every three hours has been given for the tympanitic distention of the abdomen, and has been found to act satisfactorily. It will therefore be continued.

Lastly, this case is instructive in regard to the nervous symptoms, which are always valuable in prognosis and treatment. We expect a certain amount of nervous disturbance in these cases, and rarely is it wanting. Occasionally it is absent, and this year particularly I have seen an unusually large number of cases of typhoid fever which were characteristic in other respects, but presented no nervous symptoms whatever. Another curious fact is that in many cases during the past year the abdominal symptoms were wanting, and many cases presented constipation, so that it was necessary to use an enema every third or fourth day. In some cases I gave once a week a grain of calomel in one-tenth of a grain doses, followed by an enema. As a rule, however, we expect some nervous disturbance. As long as it is only a little night-delirium it is not an evidence of much danger.

This is, of course, more marked in those of a nervous temperament. When it deepens into marked hebetude with tendency to stupor, or, still more, when it takes the form of constant, restless delirium, with quick, suspicious glances of the eye alternating with dulness, with constant twitching even when the patient seems to be asleep, with plucking at the bedclothes, it is a symptom of gravity. Other grave nervous symptoms are struggling constantly to rise, and slipping down in the bed as from muscular debility. I need not say that profound stupor and convulsions are very serious symptoms. This man has presented twitching of the tendons, picking at the bedclothes, and almost constant delirium in a marked degree ever since he has been under observation. As a rule, the nervous symptoms of typhoid fever are evidences of debility and call for a stimulating plan of treatment. When in the early stage of the disease they are present, with marked arterial excitement, flushing of the face and injection of the eye, they are indications for counter-irritation and a sedative plan of treatment. In the present case the nervous symptoms have been such as to call for stimulation, and as he has been stimulated the nervous symptoms have been diminished. Here, then, is an important guide for treatment. If under the use of stimulants the nervous symptoms diminish and sleep become more natural, we know that the stimulants are doing good.

This patient is bearing stimulation very well. The only question is whether or not we can stimulate him enough to tide him over the next twenty-four hours. He will be given eighteen to twenty-four ounces of whiskey in the twenty-four hours, ten drops of turpentine every three hours, and one-fortieth of a grain of strychnia hyperdermically four times a day, and if he is restless at night the musk must be repeated.

[This case was again presented to the class two weeks later. An abscess of the parotid had formed and opened, but the patient was greatly improved, and had been free from fever for several days. At this time the quantity of stimulus, which had been reduced, was still further reduced, so that he received half an ounce every two hours. He was also ordered a mixture containing one-fortieth of a grain of strychnia, two grains of quinia, five drops of dilute hydrochloric acid, ten minims of compound tincture of cardamon, and sufficient water to make one drachm. This was to be taken four times a day, and constituted the only treatment. The patient made a rapid recovery. REP.]—*Philadelphia Medical Times.*

ORIGINAL ABSTRACTS.

THE CONTAGIOUSNESS OF TYPHOID FEVER.—In a paper on the Etiology of Enteric Fever, published in the *British Medical Journal*, Dr. Alexander Collie, Medical Officer of the Eastern Hospitals, says: That enteric fever, however, does now and then spread in hospital-wards, there appears to be little doubt. Dr. Sharkey has given some instances; and when it is more generally recognized that the disease does arise by contagion, we shall probably hear of more. The widely spread belief, that it cannot arise in this way, necessarily leads inquirers to look for another mode of origin. But to return. The drains at the Homerton Fever Hospital—that is, specifically infected drains—have no existence. The closets are all nailed up, and the connection between the ward drain and the main drain is taken up. Nurses and others could not, if they would, pass enteric fever or other motions into the drains. In each ward, there was an additional assistant nurse to carry the motions immediately they were passed, and throw them into the pit. This was the condition of things from October 4 up to March, 1882. Now, whatever has not been eliminated is a possible cause. But drains at Homerton were eliminated; therefore, drains at Homerton were not a probable cause, or, more correctly, a means of conveying the cause. In these conditions, L. Horton, aged 18, entered the Bradley ward as an assistant nurse on October 8. She was on duty until November 6, when she was found to be suffering from what was probably enteric fever. She was discharged recovered on January 2. There was continuous fever for twenty-two days, with the general appearance peculiar to enteric fever. This is not a striking result, but it has been the yearly average amongst the nursing staff during the last six years, 1878 to November, 1883. It may be fairly said, therefore, that the absence of drains specifically infected made no real difference in the incidence of enteric fever on the nursing staff of the Homerton Fever Hospital. There were two other cases during this period, one that of a patient, the other that of a visitor to an enteric fever patient; one of which proved fatal. Having given these in detail, and referred to certain objections which might be raised against their significance, he goes on to say: Individually, I do not think these cases of great importance; but together, whilst far from conclusive, I think they deserve consideration from those who attach little importance to the view that enteric fever is communicable from the sick to the healthy, by personal intercourse in circumstances in which decomposition can have no part, except, of course, such decomposition as may have taken place within the body. Whatever conclusion may be drawn from them, and whatever objections may be taken to them as evidence in favor of the view that enteric fever is an infectious disease, one fact is indisputable, and that is, that three persons fell sick of enteric fever within about a fortnight of their exposure to enteric patients, in rooms cut off completely from drains; in rooms in which there were no decomposing stools; and that these three persons were not exposed to any other known source of contagion; that is, briefly, the absence of the cause, "specifically infected drain," and "decomposing stool," was not followed by the absence of the effect, enteric fever.

HÆMORRHAGIC MALARIAL FEVER AS IT OCCURS IN ALABAMA.—Dr. Jerome Cochrane, Health Officer of the State of Alabama, in a paper on this subject in the *Journal of the American Medical Association*, sums up the natural history of the affection as follows: 1. That hæmorrhagic malarial fever originates only in malarial regions, although the morbific paroxysm sometimes may occur after the removal of the subject of it to a healthy locality. 2. That the poison which causes hæmorrhagic malarial fever is the same as that which causes ordinary intermittents or remittents, But a few of my correspondents are inclined to doubt this, and to believe that the specific etiological factor in this disease is not identical with that which produces intermittent and remittent fever of the usual malarial types. 3. That hæmorrhagic malarial fever may manifest itself in three different forms, namely (*a*) the intermittent, (*b*) the remittent, (*c*) the congestive; to which may probably be added a fourth form, (*d*) the quasi-continued. In this respect the fever follows the analogy of the ordinary malarial types. 4. That the congestive form of the malady is almost necessarily fatal under all plans of treatment; the remittent form extremely dangerous, with the deaths in excess of the recoveries; the intermittent form less dangerous than the two others just mentioned, with the recoveries in excess of the deaths; while the quasi-continued form is comparatively rare, and probably the result of inflammatory visceral complications. 5. That negroes and mulattoes are comparatively exempt from the disease in any of its forms; being, indeed, less susceptible to this fever than to yellow fever; and the rate of mortality of the cases that occur among them is very much less than that among the white cases. 6. That in the immense majority of cases it attacks persons who suffer from malarial cachexia, and who have a history of chronic chills. But in a small minority of cases it attacks persons who, while they have been much exposed to malarial influences, have still remained apparently well up to the moment of the malignant outbreak. 7. That one attack affords no guarantee against another, the same person often suffering successive attacks in successive seasons, or even in the same season. 8. That the paroxysms usually begin with a chill, which is often of protracted duration, which occurs frequently during the afternoon or in the night, and which is accompanied or speedily followed by troublesome bilious vomiting, by the characteristic red urine, and by icteroid discoloration of the eyes and skin. 9. That the febrile reaction, as marked by the temperature and the pulse rate, is not usually of very high grade. But there seem to be some exceptions to this rule in the intermittent and remittent, and especially in the quasi-continued forms, in which both temperature and pulse are dominated by intercurrent complications. 10. That while the fever continues the skin is apt to be harsh and dry, although this rule is not universal, and that the occurrence of free, and even profuse, diaphoresis is a symptom of favorable omen. 11. That the bowels are usually constipated, the portal circulation obstructed, the liver congested and torpid, and the whole system deluged with bile, and that free bilious purging seems always to afford some measure of relief. 12. That the billious vomiting makes its appearance early, is attended by distressing nausea, and is usually copious and persistent, the vomited matters ranging through many shades of color—yellow, green, black, and even blue. 13. That the black vomit of this fever is usually altered bile, not altered blood, and is free from the coffee-grounds appearance so characteristic of the vomit of yellow fever; but a small number of cases seem to be marked by black vomit not distinguishable by mere inspection from that of yellow fever. 14. That when this black vomit occurs at all it almost always occurs at the beginning of the attack, and is always preceded by the appearance of red urine. 15. That the icteroid discoloration of the skin and eyes, which extends also to the cellular tissues, usually comes on with the initial chill, deepens very rapidly in intensity, may clear up more or less during the remissions and intermissions of the fever, to increase again with the successive exacerbations, may grow less toward the end of protracted fatal cases, and sometimes disappears completely after death. 16. That the characteristic red urine usually shows itself with the initial chill, and always in an early stage of the paroxysm; is at first very profuse; may diminish or disappear in the remissions and intermissions of the fever, to reappear again in the successive exacerbations; may clear up and grow less abundant toward the end of protracted fatal cases; and there is often toward the end of fatal cases complete suppression of all urinary secretion. 17. That the red urine, which is the special characteristic symptom of this fever, is highly albuminous; with granular tube-casts in abundance, and owes its red color, not to the presence of the blood and the red corpuscles, but to the blood pigments, and especially to hæmoglobin. 18. That the more obvious post-mortem appearances in hæmorrhagic malarial fever are substantially the same as are found in other malarial diseases, namely, of liver enlarged and congested, and of dark bronze or slate color, bile abundant in gall bladder and alimentary canal; spleen enlarged and congested, but with the additional pathological complication of enlarged and congested kidneys. Many have lost faith in the efficacy of quinine in the treatment of this affection. Those who still believe in it ascribe the waning faith of their doubting confréres to improper methods of administration. It should not be given, they say, until the system of the patient has been prepared for its reception—that is to say, until the superabundant bile has been purged away, and the cutaneous functions re-established.

ERYSIPELAS AND ANTISEPTICS (*Union Medicale*)—Messieurs Verneuil and Gopelin have attributed to the germ theory, and to the surgical applications born of this theory, the great improvement observed to-day in the results of operations. Such is not the opinion of M. Leon Le Fort. He makes a distinction between the germs of fermentation and the germs of contagion. The doctrine of the germs of fermentation belongs without doubt to M. Pasteur, but it really offers few applications to surgical practice; it is with the contagion-bearing germs that the surgeon ought above all to occupy himself, and the doctrine of contagion bearing germs, as well as the benefits of the applications flowing therefrom, belong to those who long before M. Pasteur advocated the ideas of contagion in surgery, ideas in virtue of which, as far back as 1862, Lemaire employed phenic acid in the dressing of wounds. Besides, the experiments of Rose, of Zurich, performed upon a large scale, have demonstrated the little influence that the germs of the air possess upon the development of purulent infection. This surgeon has systematically left without any dressing the wounds of all his subjects of amputations or operations, and these wounds exposed to all the germs of the air of Switzerland have none the less perfectly healed, and Rose has obtained results superior to those of Lister. M. Leon Le Fort has, in his service, repeated the experiments of Rose, and has obtained the same results. If he has renounced this method, it is because it demands much more care to prevent irritation of the wound by rubbing of the linen, cloths, etc., and because in point of fact the patients recover more quickly and better with a dressing than without. In all cases it results, at least from the experiments made in Switzerland upon a large scale, that, from the point of view of purulent infection, the wounds had nothing to fear from exposure to the contact of the air and from the deposit upon their surface of germs of fermentation. It has been said that Lister had had in view, by his dressing, to oppose the propagation by contagion of erysipelas or of purulent infection. This is an error. Lister had in view only union by first intention, and there is between the practice of the London surgeon and that of M. Verneuil this essential difference, that the former always seeks to obtain union by first intention, whilst M. Verneuil leaves his wounds largely open. These surgeons reach, in fact, the same results, by means absolutely different in appearance, but having in reality a complete similarity. Lister, M. Verneuil, M. Gosselin, M. Alphonse Guerin, M. Polaillon, all succeed, whether intentionally or not, in taking the greatest precautions against contagion. Lister, who aims only at the germs of fermentation, destroys at the same time the germs of contagion by means of phenic acid. But if the antiseptic dressings have rendered the subjects of amputation secure against purulent infection, they do not protect against erysipelas. M. Leon Le Fort is led to believe, on the contrary, that in many cases they would have the effect of provoking it. To sum up, we do not yet know under what influences and in what conditions erysipelas arises and is propagated. What we do know is that we can succeed in diminishing it, and even in causing it almost completely to disappear, by preventing its propagation by contagion. H. McS. G.

CONTRA-INDICATIONS TO LAPAROTOMY, AND THE DESIRABILITY OF RECOGNIZING THEM.—In a timely paper on this subject published in the *N. Y. Med. Journal* of May 9, 1885, Dr. Henry C. Coe says that an excuse for dwelling upon an apparently outworn theme may be urged in the boldness of modern peritoneal surgery, which regards no organ as beyond the range of its capabilities. There is danger lest operators, elated at results which were formerly deemed impossible, should rush to the opposite extreme and forget that there still remain conditions under which the privacy of the abdomen should be respected. He has seen so many errors in diagnosis on the part of the most distinguished operators, so many hasty inferences from examinations made by them, that the importance of the subject has been brought home to him in a practical way, such as could not result from any acquaintance with books. The paper is principally devoted to a consideration of the importance of securing an accurate and exhaustive history, and of making a thorough examination, not only local, but general, of the patient, in all cases where laparotomy is thought of. In speaking of the general examination he states that a few years ago, when engaged in collecting some statistics as to how far organic disease of the kidneys is a contra-indication to abdominal section, he wrote to several of the most prominent ovariotomists, asking for a brief reply to the following questions: "1. Have you been accustomed to examine carefully the urine of your patients before and after operation? 2. How often have you been led to suspect organic renal disease in patients who were about to undergo laparatomy? 3. Do you consider such renal disease as a positive contra-indication to the measure?" Most of the gentlemen to whom these queries were addressed either replied frankly that they had never troubled themselves about the condition of their patients' urine, or showed by their answers that they considered this a matter of small importance. Observations upon the customs of foreign surgeons have led him to believe that many of the cautions laid down in the books are entirely disregarded by them. By the local examination, he thinks, should be understood not only the determination of the origin and character of the tumor (and under this is included the wide subject of differential diagnosis), but of its relations, adhesions, and *operability* (to coin a word). The danger at the present time is that the younger men, hearing so much about "exploratory incision" and its harmlessness, will become careless, and not trouble themselves about a diagnosis which can readily be established by a few strokes of the knife. The local conditions which render an abdominal tumor non-removable, or which at least do not justify the attempt, are now regarded as very few—too few for the good of the patient. Yet there still remain certain limitations, even with the present *ardor operandi.* If a tumor is found occupying the left hypochondrium, limited above by the upper border of splenic dullness, separated from the pelvis by an area of tympanitic resonance—in short, if it is an enlarged spleen—most men will be content to look upon laparotomy as out of the question, remembering that, out of some thirty or forty splenectomies now on record, twenty-two patients have died of shock. Some lingering hesitation will continue to exist in the minds of American operators about interfering with a pelvic abscess, or an hæmatocele, after the method of Tait; there are those still conservative enough to shrink from opening the abdomen for the purpose of draining an encysted dropsy. But all of these things have been done, and done successfully, so that the question may pertinently be asked, "Are there *any* local conditions which, if detected before operation, should deter the surgeon from proceeding to the extreme measure?" Dr. Coe believes that there are, and that a disregard of them lowers gynæcology to the level of "Vienna" surgery. The difficulty of judging about the precise origin and seat of the enlargement is sometimes so great as to be insurmountable. Ovarian cysts with long pedicles are often mistaken for renal cysts, and *vice versa*. As there is a wide difference in the prognosis after the removal of such cysts by abdominal incision, it is desirable to establish their identity before the operation. In this doubt a complete history and a *medical* examination (in contra-distinction to a superficial one, made from a purely *surgical* standpoint) will generally solve the problem. What is more perplexing at times than to decide as to the presence of a limited ascites? But, when a tumor is present in addition to an extensive peritoneal effusion, the diagnosis is frequently impossible. Dropsy, though a serious hindrance to accurate diagnosis, should be accompanied by other suspicious symptoms before it is regarded as a positive contra-indication to operation. It seems unnecessary, he says, to refer to pregnancy as a contra-indication, for every man is supposed to be on his guard against that blunder. But the fact is, any one is liable to be caught napping, and to forget, while searching eagerly for a pathological enlargement, that it may be an entirely physiological one. The diagnoses of parovarian, renal, and hydatid cysts are perhaps the only ones which can be made with certainty by an exploratory puncture. In the writer's opinion the dangers of this measure have been exaggerated. How an exploratory incision can be preferred to it is inexplicable. Besides the determination of the seat and character of the tumor, the local examination may disclose such anomalies in its relations or attachments as will lead to an abandonment of the operation. When the surgeon is quite sure that he has to do with a small cyst, which is firmly adherent to the uterus, dips down into the pelvis, and is absolutely immovable, he will hesitate for some time before attempting its extirpation. The possibility of error, the chances offered by draining the cyst—these may lead a bold operator to go ahead in spite of the bad outlook, but to the inexperienced this condition should certainly be a contra-indication. As to the question of exploratory incision—a proceeding which is growing quite popular, the writer states that he feels incompetent to express an opinion as to the advisability of the measure in every doubtful case, and would simply say that he has seen too many fatal cases to regard this as such a simple affair as it has been represented by a recent writer. We have all, he says, seen cases the desperate nature of which was apparent the moment that the abdominal cavity was exposed; a consultation was held, the operation was proceeded with, and —the patient died on the table. This is, unfortunately, a common story, tragic enough when it follows a conscientious desire to "give the patient a chance," but dismal in the extreme when it results from mere personal pique at being obliged to abandon an operation. Contra-indications, he states further on, may cease to be such under certain circumstances. They are variable. What would be justifiable for a skilled operator would be criminal for a novice, and, if a man has several times overcome formidable obstacles, he will not be inclined to regard them as sufficient to deter him from similar operations in the future. Books give their cautions, but here again experience is the only teacher. In conclusion, he says: " A book on errors in the diagnosis of abdominal tumors would be the most valuable contribution that a mature surgeon could make to his younger brethren; such a record might not be so flattering to him as a series of statistics proving his diagnostic infallibility, but to those who are earnestly struggling after light it would be a priceless memorial, a means of saving them from purchasing their wisdom at a fearful cost."

A Case of Septic Salpingitis Relieved by a New Method.—Dr. J. W. McLaughlin reports in the *Texas Courier-Record of Medicine* a case in which the patient, who, having shortly after delivery with forceps had an attack of septic endometritis, which was successfully treated with intra-uterine injections of mercuric bichloride. On the eleventh day following her confinement she had another severe chill. Fever rapidly ensued, the temperature reaching to 105½°. She had profuse sweatings, and complained of much pain and soreness in the region of the left ovary and ovi-duct. He found upon examination that the os and cervix uteri, which had previously been patulous, were now so contracted that he could not pass the irrigating tube which he formerly used. Twenty-four hours later the fever had not abated, the pulse had become frequent and feeble; face pallid and haggard. She suffered from great restlessness, and slight delirium had come on. It seemed evident that some of the bacteria from the first infection had found a lodging place in her left ovi-duct, out of reach of germicidal washes, had there developed and multiplied until a septic salpingitis had resulted, and that death would speedily result from septicæmia, unless this local source of infection could be reached and its cause destroyed. Assuming that 1 gr. of mercuric bichloride in one pint of water would destroy any bacteria or their spores with which the solution might come in contact; assuming furthermore that an aseptic fluid would prove innocuous if thrown into the peritoneal cavity (excepting so far as it would irritate by its mechanical presence or chemical properties), he adopted the following method to reach and destroy the pathogenic bacteria which he believed to be present in her left fallopian tube and endangering her life. Having introduced a rubber catheter into the cavity of the uterus, he slowly injected the solution of bichloride (1 gr. to 1 pt.), until she complained that the womb felt distended. He then withdrew the catheter, leaving about 4 oz. of the fluid in the uterine cavity. In the course of fifteen minutes she had violent pains in the pelvic region, but these he controlled by hypodermic injection of morphia. The next day she passed from her womb about four ounces of thick pus; the fever left her in a few days, and she made a slow convalescence.

Spinal Abscess and Its Treatment.—In a clinical lecture on this subject reported in the *British Medical Journal*, Mr. George Cowell, F. R.C. S., says: There is some difficulty in recognizing the beginnings of these abscesses. They are naturally chronic and insidious. They may commence in almost any position around the carious bone, and sometimes at a little distance from it. When once they begin the pus may travel in a good many different directions, and finally point in some part remote from the source of irritation. When the abscesses travel backward they will soon become evident in the back by swelling and fluctuation on one side, or sometimes on both sides, of the spinal column. There is no excuse for not recognizing these early. In the majority of cases, however, the abscesses commence in the neighborhood of the bodies of the vertebræ, and will not be recognized either until they have attained a large size, or until they have extended downwards, and have approached the surface in the loin, in the groin above Poupart's ligament, in the perinæum, in the upper part of the thigh, and even, occasionally, in some other part of the thigh or leg. These abscesses sometimes burst into the rectum, or may burrow through the obturator foramen to the back of the thigh, and point behind the great trochanter. The abscess will usually receive a different name in each position, but the disease is the same in all, and the treatment must be on the same principles. Before speaking of the treatment, he spoke of the importance of preventing their formation by the early recognition and proper treatment of the spinal caries which may cause them. By proper extension by means of a plaster jacket, taking thereby all weight from the spinal column, and ensuring perfect rest to the bones affected, the formation of an abscess may generally be prevented. The same treatment will often arrest the extension of an abscess already beginning, and lead to the contraction of the abscess-cavity, and absorption of the pus which has been formed. The lower in the spinal column the disease is situated the more effective the treatment will be. To ensure complete rest to the part it is necessary that the jacket should be so applied that it grasps the upper part of the pelvis below and the ribs with the lower portions of the scapulæ above. When these jackets fail, it is generally because they do not get sufficient purchase to thoroughly bear the weight of the upper part of the body and remove it entirely from the spinal column. It is important to remember that, in cases where the spinal disease has resuted in any paralysis of the lower extremities, these jackets are unsuitable; but in all other cases the sooner the jacket is applied the better the result will be, and hence the importance of making the diagnosis at the earliest possible moment. Another great advantage of this plan of treatment is, one can often avoid the pernicious treatment of these cases, keeping the patient in bed. Confinement to bed does harm to the patient in three ways: It diminishes his vital powers. It debars him from air and exercise, and thus tends to wasting of his muscles. And it favors the gravitation of the contents of his abscess to dangerous quarters. On the other hand, if the patient be able to rise, and can seek light and air, and take some moderate exercise in the erect position, nutrition is maintained, and suppuration, if it be not arrested, will be encouraged to extend downward along the muscles, in a direction most favorable to recovery. He then continued as follows: Support and rest by means of a jacket, and the due maintenance of the health, are, then, the first of the objects of the surgeon in all cases of spinal abscess. Do not be in a hurry to open them, unless they be large, or attended by pain and tension. Under these conditions, the sooner they are relieved the better. But I want you always to remember the possibility of spinal abscesses diminishing and drying up, under a treatment which permits the healing of the bone-lesions. Even if the abscess do not disappear, it is very important to give the active bone mischief time to subside before opening and emptying it. When it is necessary to open large or pointing abscesses, let me advise you always to open them very freely. Of course, be most careful in your antiseptic precautions. My early recollection of these cases is that nearly every patient with spinal caries, attended with large psoas or iliac abscess, died. Now, with proper treatment, a large proportion of them ought to get well, and strict antiseptic dressing will help us much. There is, however, always a difficulty in keeping these cases, when the wound is near the fold of the thigh, perfectly aseptic. The gauze-dressings were almost useless for this purpose, but in the treatment of these cases you have seen large absorbent pads used, as they may more easily be kept closely applied to the skin around the wound. But strongly as I would advise you to be most careful in the use of antiseptics, I wish, at the same time, to accentuate the fact that thorough drainage is as important as, if not more important than, antiseptics. You cannot possibly keep a long discharging canal clean and free with all the antiseptics in the world, if you have only a small opening. There are other advantages in a free opening. All degenerating contents can be effectually scraped out. The condition of the diseased bone can often be ascertained, and sometimes dead portions of bone and sequestra can be removed, as was shown some years ago by Mr. Furneaux Jordan, of Birmingham. In some of the cases, in spite of all our care, the caries goes on, and the patients die of prolonged suppuration; but I believe that the number of these may be more and more diminished by early recognition, and treatment by effective spinal support, and, in the cases where large abscesses occur, by the complete drainage and cleanliness which will be promoted by free incision and careful antiseptic precautions.

CASE OF CARIES OF THE SPINE, WITH PARTIAL PARAPLEGIA, TREATED BY THE APPLICATION OF SAYRE'S JACKET: RECOVERY OF POWER OF LOCOMOTION IN TWENTY-FOUR HOURS.—Dr. Martin Oxley, consulting physician to the Liverpool infirmary for children, reports the following case in the *Lancet:* Mary D——, aged ten years, came under notice on June 1, 1883. There was disease of the fourth, fifth, and sixth dorsal, also last dorsal and first lumbar vertebræ, there being two distinct angular curves, the upper the more marked. She had been four months in the Aberystwith Infirmary under treatment. When discharged she had lost the use of her legs, and could not stand or walk. When seen by him she was unable to walk, although she could stand with assistance. She cried out suddenly with pain, caused by spasmodic jerking of her right leg. He applied a Sayre's jacket and a jury-mast while she was suspended, putting on extension enough to straighten the body, but without attempting to open out the two angular curves. The feet were flat on the ground, and she grasped the cross-bar with her hands, an assistant giving her support and steadying her during the application of the jacket. She was then placed in bed. The next day, on his visiting her, he was told that she had been out of bed, contrary to orders, and had walked without difficulty. On hearing this he tested her walking powers, and found that they were quite restored. She went to her friends in Liverpool until November 10, 1883, when she returned to have a new jacket. She was then in excellent health. In June, 1884, she had a new jacket applied, and was able to walk about without any support. Now (April, 1885) the patient is again in Liverpool, and has had a new jacket and jury-mast applied. She is able to go about quite comfortably without the support; but having seen bad results follow when the corset has been given up too soon, it is intended to keep a light jacket on for some years. Dr. Oxley makes the following remarks in regard to the case: The relation of this case will, I hope, convince those who doubt the efficacy of Sayre's mode of treating spinal caries—viz., by the application of a well-fitting plaster corset, which allows the patient at once to walk about and behave like a healthy individual. I consider the above as good an instance for testing Sayre's method as one could have. 1. The patient is old enough to speak for herself, and is highly intelligent. 2. She had previously been under treatment in hospital, under a skilful surgeon, by rest in the recumbent position. 3. She had disease of two separate portions of her spine—viz., the fourth, fifth, and sixth dorsal, and the twelfth dorsal and first lumbar vertebræ. 4. She was unable to walk when she came under treatment. Further, a few days after the application of the jacket she was sent out into what we know too well as squalid Liverpool; and when she came to see me again, six months after the first application of the jacket, her dirty condition told very plainly how little care had been bestowed upon her.

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HOSPITAL NOTES.

Manchester Hospitals.—At the annual meeting of St. Mary's Hospital for Women and Children the cry so common from our medical charities was again heard—expenditure was outrunning income. The charity certainly has special claims, being the only one with a maternity department in the city and neighborhood, the patients in which during the past twelve months numbered 3045. The cases admitted into the wards were 544, while the total patients under treatment were 14,192. The chairman, Mr. Duncan Matheson, who succeeds the late Canon Bentley, who for so many years was an earnest supporter of the hospital, alluded to the necessity of steps being taken at the earliest possible opportunity to reconstruct or build a new hospital, but the committee were loth to take any further steps in the matter until they could see their way clear to obtaining the funds required for that purpose. It was decided to bring more prominently before the public of Manchester and the surrounding district the work and needs of this particular hospital.

To the hospital belonging to the Chorlton guardians at Withington additions are shortly to be made, owing to the crowded state of the wards; it was recently stated by one of the members of the Board (a medical man) that it was not safe to perform any serious surgical operation there on account of the overcrowded state of the hospital.

At the Crumpsall Workhouse, belonging to the Manchester guardians, plans have been passed for a new hospital for the treatment of infectious diseases, to be erected at a cost of £2400. Hitherto the guardians have sent most of their infectious cases for treatment to the Monsall Fever Hospital. It is certain that, in the event of any serious epidemic in the city, the cases coming under the charge of the guardians could never all be treated and the diseases properly separated the one from the other with the hospital accommodation that can be provided for the above sum.—*Lancet.*

St. Louis Hospital—Surgical Department—Intestinal Obstruction.—Service of Dr. N. B. Carson, Reported by Dr. Paul Y. Tupper. Robert Q., aged twenty-three, Englishman, carpenter, of good physique, was admitted to the hospital September 14, 1884, with the following history: Excepting a feeling of malaise recurring at irregular intervals, during the last few months, his health has been good. About two years ago while traveling in Africa, he suffered a slight attack of intestinal obstruction, which caused some anxiety and pain, but was relieved by simple measures. Five days before entering hospital, feeling the need of a purgative, he took four compound cathartic pills. His bowels not responding, he was advised to take other purgatives, which he did. Among these were jalap, calomel, and citrate of magnesia. An injection per rectum of a quart of water was also administered. This brought away only a few small fecal masses from the lower bowel. During the exhibition of these heroic measures to produce purgation, the patient suffered considerable pain, his abdomen began to enlarge and vomiting set in. In this condition he was seen by Dr. Carson. Opiates and warm applications to the abdomen were ordered, and he was removed to the hospital. Temperature, 102.2 degrees F. Pulse, 140 and feeble. Skin cool and moist. Vomited matter distinctly stercoraceous. Depression marked. Obstruction in the small intestine was diagnosed, and the patient and his friends informed of the nature of the case, its prognosis, etc. An operation was requested by them, and immediately proceeded with. Under ether the median abdominal incision was made, extending from the umbilicus nearly to the pubis. Upper portion of small intestine was found to be much injected and distended with gas and fluid feces. Following the intestine downward, the obstruction was reached at a point corresponding to about the middle of the ileum. The nature of the obstruction was peculiar. A firm, fibrous band, about an inch and a quarter in length, extending from the intestine to the abdominal wall, had evidently formed during some former imflammatory attack, or was possibly congenital. This band was not connected directly with the normal intestine, but to a blind diverticulum or pouch-like process opening into the intestinal lumen. This diverticulum was about an inch in length and sufficiently large to admit the index finger. The band was attacked to the abdominal parietes at a point two inches below and to the right of the umbilicus. In the violent movements of the intestines, a loop had fallen beneath the band connecting this pouch with the abdominal wall and become incarcerated. Below the site of obstruction the intestine was empty. Two ligatures were cast around the band, and it was divided between them. This relieved the obstruction completely, allowing the gas and fluids to disseminate freely through the lower bowel, some flatus escaping at the anus. This incarceration of the loop of intestine was evidently of long standing, as the line of pressure of the constricting band was marked by a permanent narrowing of the intestinal calibre. There was no effusion into the abdominal cavity. The wound was closed with interrupted silk sutures and dressed with iodoform, borated cotton, and the binder. During the operation, the patient's condition was critical, requiring the subcutaneous injections of ether and brandy. In bed, hot bottles were applied, and every effort made to sustain the flagging powers, but to no purpose, the patient dying from exhaustion within twelve hours after the operation. Post-mortem six hours after death. Intestines somewhat injected and containing large quantities of fluid feces. Obstruction entirely relieved. Some discoloration of intestine and permanent narrowing of the calibre at site of pressure of band.—*St. Louis Courier of Medicine.*

THE NEW ST. LUKE'S HOSPITAL BUILDING, CHICAGO.—The new building for St. Luke's Hospital has been so far advanced that the patients have been transferred to it, and the hospital is in good working order. The structure is not yet complete. The old buildings stand upon the ground which is to be used for the pavilion intended for the surgical wards and the ward designed for children. It is contemplated to remove the old buildings at an early date, and to proceed to erect the new pavilion, when the structure will present the form of a hollow square. The executive portion of the building extends east and west, whilst the pavilions are arranged to run north and south, so as to secure the greatest amount of exposure to sun-light in the wards and private rooms. The heating and ventilation of the buildings are on the same plan as that of the Johns Hopkins Hospital. To avoid too high temperature from the steam heating, more radiating surface—in the direct radiation—has been introduced, which, with the careful ventilation, gives an agreeable temperature in the building. The accident ward and the dispensary are located on the ground floor, whilst the amphitheatre with the anæsthetizing and the recovery rooms, are at the top of the building, accessible by elevator. The amphitheatre is remote from the wards and is placed where good light can be had. In its construction and its internal arrangements, the hospital is fully abreast of the times. The autopsy amphitheater—the wards for contagious diseases and the laundry are located in a detached building. The authorities of the hospital have anticipated its continued growth and have secured additional ground adjoining, upon which an extension of the present building may be erected, when needed, which will be in keeping with the plan of the present structure. *Chicago Med. Journal and Examiner.*

THE CARNEY HOSPITAL, BOSTON.—In the year 1863 the late Andrew Carney, of Boston, purchased at a cost of $13,500, the piece of ground where the Carney Hospital now stands, and presented it to the community of Sisters of Charity, that it might be used for its present purpose. It stands upon one side near the summit of the famous Dorchester Heights, from whence Washington forced the evacuation of Boston by the British troops. The superb view on all sides and the pure air and sunshine which reach it from all quarters indicate the spot, though in close proximity to a poor and thickly settled portion of a great city, as admirably adapted to the purposes to which it has been devoted. The present brick building was erected in 1865 at a cost of $108,000, Mr. Carney having added $56,700 to his original gift, and represents only one wing of the proposed structure. Additional land was purchased some years ago by the Sisters to secure an unbroken frontage on three streets, a purchase which increased the debt which they were compelled to assume upon the building itself. They have carried on their hospital all these years with constantly increasing success and usefulness in the absence of any endowment, through periods of prosperity and adversity, under temporary discouragements which would have disheartened less zeal than theirs, and this year, in their annual report, make the gratifying announcement that the hospital is at length entirely free of debt. This consummation, however, seems to be only an incitement to fresh exertions, and the Sisters now appeal to the community to aid them to realize the original plan of the building by completing the other wing. In addition to the usual medical and surgical wards and out-patient departments, the Carney Hospital, in its private rooms, offers unusual facilities not to be found elsewhere. Any patient occupying a private room can be treated by the physician of his choice, whether a member of the Hospital staff or not, provided he be a regular practitioner of medicine. Such a provision is often of great convenience both to doctors and to the sick.—*Boston Medical and Surgical Journal.*

TORONTO GENERAL HOSPITAL.—To show the rapid growth of Toronto during recent years as a centre for medical education, we may refer to Toronto General Hospital, with its ever-increasing facilities for teaching, which have been taken advantage of by an unprecedented number of students during the session just closed. Four hundred and fourteen medical students registered their names at the hospital, and nearly all of them have already presented their tickets for certificates of attendance at the clinics and autopsies. The seating capacity in the operating theater was found to be insufficient, and additional accommodation was provided. Every Saturday it was faithfully attended to witness the operations, which have largely increased in number and importance. Mr. Lawson Tate, in his American notes, says: "I spent a long afternoon in the hospital in Toronto, and saw there the results of surgical work as brilliant as any to be found in Great Britain." The interest taken by the class in practical hospital work is shown by the great demand which there was for clinical clerkships and dresserships. The daily average number of patients under treatment has been 200. In the last nine years the number of in-door patients has increased from 921 in 1875 to 2,068 in 1884, which increase must and does add greatly to the clinical advantages to be derived by the students in attendance. The Eye and Ear department has grown apace; four services a week were regularly attended by the final class. The special Skin Clinic, by Dr. Graham, has been largely attended, and gave the greatest satisfaction; as have also the regular practical Gynæcological Clinics, which were carried out in the special wards—Dr. Temple taking the first three and Dr. U. Ogden the last three months of the session. The improvements indicate that the Medical Superintendent and the staff have not forgotten the interests of the students while attending to the welfare of the patients.—*Canadian Practitioner.*

SANITARY DEPARTMENT.

PRECAUTIONS AGAINST CHOLERA.—At a recent conference in this city of the Health Officers of the ports of New York, Boston, New Haven, Brooklyn, and Baltimore, and the State Board of Health of New York, the following quarantine regulations were adopted to prevent the introduction of cholera and other diseases into the United States the coming summer, to go into effect immediately:

The maximum period of incubation of Asiatic cholera may for quarantine purposes be assumed to be eight days, and that in case of the disease occuring on vessels during the voyage hitherward the quarantine of observation of persons should extend to eight days from the last date of possible exposure.

That for fumigation of closed spaces, sulphurous acid gas may be commended, from two to three pounds of sulphur being burnt for each 1,000 cubic feet.

That for disinfection of baggage or other fomites, reliance may be placed on fresh chloride of lime, bi-chloride of mercury, or dry heat to 230° Fahrenheit.

That in view of the danger of other contagia as well as that of cholera, all rags imported to this country should be disinfected either at place of departure or on their arrival here.

That if such disinfection be done abroad, it be required that either the rags be boiled for not less than 30 minutes and dried before bailing, or treated with superheated steam for not less than eight minutes, and in such manner as to be heated to or above 212° Fahrenheit in every port.

THE SANITARY CONDITION OF SCHOOLS—The Illinois State Board of Health has issued the following *Circular to County Superintendents of Schools :*

In anticipation of the possible appearance of Asiatic cholera in the near future, as well as in the general interest of the health of public-school children, the State Board of Health requests that County Superintendents of Schools throughout the State use their influence and authority in securing a good sanitary condition of the public-school buildings and premises over which they have supervision, before the season becomes too far advanced.

To this end it is desirable that Boards of School Directors be specifically advised of the importance of an immediate inspection of school buildings and premises with reference to—

I. *The purity of the water supply.*—If the water supply be from wells, these should be so located and protected as to be free from contamination by sewerage from privy vaults, cesspools, or other sources of ground-pollution, as well as from surface drainage. If from springs or running streams, these should equally be protected against contamination.. If from cisterns, the roofs and gutters connected therewith should be kept clean and free from any accumulation of leaves or other debris or refuse ; the curb and cover (if the cistern be below ground) should be sound and high enough to prevent any surface drainage ; if there be any suspicion of leakage, it should be at once repaired ; and unless the water be free from color and odor, it should be pumped out and the cistern thoroughly cleansed. Where there is any doubt as to the wholesomeness of the water now supplied its use should be abandoned and other provision should be made at once.

2. *The condition of water-closets and privies.*—Water-closets should not

be located in basements or interior rooms, should be well ventilated, properly trapped, and thoroughly flushed, and the soil pipe should be ventilated by a suitably protected ventilating pipe opening above the roof. Privy-vaults should be emptied and disinfected before warm weather makes such work dangerous. If the present location is objectionable, new tight vaults, preferably above ground, should be constructed at a safe distance from any source of water supply. The old vaults should be emptied, and then filled with clean dry earth.

3. *The drainage and policing of grounds.*—Grounds around school buildings should be thoroughly drained ; gutters, sewers, and other drains should be cleaned out, disinfected if necessary, and kept free from obstructions ; stagnant water, either on the premises or in the vicinity, should be drained off, and the low, moist places filled in with clean dry earth, or sprinkled with fresh-burned lime. All accumulations of refuse, ashes, etc., should be removed, and the grounds be kept scrupulously clean.

4. *The condition of buildings.*—So far as practicable a thorough spring cleaning should be given to all schoolrooms, and especially to the basements, where there are such. Damp basements or underground stories, after being properly cleaned, should be liberally sprinkled with fresh-burned lime, changed from time to time. All rooms should be freely exposed to the air when not occupied. Buildings which are connected with sewers and a public water service should be carefully inspected as to the plumbing and drainage, and all defects should be promptly remedied. Where nuisances exist on adjoining premises or in the vicinity of a school, the attention of the proper authorities should be called thereto by the School Directors and their immediate suppression should be requested.

PHARMACY AND THERAPETICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre	equal to	15	troy grains	water.
1 centilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. " "		455 69-100ths "
1 fl. gallon " "		231 cubic inches.
1 fl. pint " "		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

COCAINE HYDROCHLORATE IN DISEASES OF THE NOSE AND THROAT.—In the *Canada Medical and Surgical Journal*, Dr. George W. Major publishes an elaborate paper in which he has tabulated a number of cases occurring in an arbitrary space of time, and given them in the order of their coming, with no attempt at selection or suppression of cases. The list includes all those in whom cocaïne hydrochlorate has been used, for any purpose whatever, from a certain date up to the time of writing.

Of the 96 cases reported, the sittings, 200 in all, were disposed as follows: Painful operations on the nose, as the destruction of hypertrophied turbinated tissue by means of chemical agents or the galvanic cautery, 127; painful operations on the pharynx, pillars or neighboring parts by galvanic cautery, 42; ablations of the uvula, 3; tonsillotomies, 2; removal with the scalpel of the acute angles of deviated septa obstructing a nasal passage, 2; Cutting through cicatricial adhesions or fusions of turbinated tissue and septum nasi, 2; Eradication of myxomata or other nasal growths by means of snares, forceps, &c., with subsequent galvano-cauterization of their pedicals, 5; application of 4 per cent. solution and cocaïne to inflamed and painful palate, pillars, &c., 1; Laryngeal sprays of from 1 per cent. to 10 per cent. for various purposes, as allaying cough; as a local astringent, and as an anæsthetic in the removal of laryngeal growths, &c., 18.

For all practical purposes of allaying pain the ordinary 4 per cent. solution has in his hands answered every expectation, but where mere steadiness or lessened sensibility is all that is sought, a one or two per cent. he thinks will generally be found sufficient.

For operations in the larynx a stronger solution than the four per cent. is called for, as the latter, though it aids very materially any surgical procedure, still does not sufficiently overcome spasmodic closure, and this prevents a clear view. The action of cocaïne as a local anæsthetic, he believes, is but one of many remarkable properties possessed by it. In the pharyngeal region its action is that of a sedative and astringent, and in the larynx it combines these properties with that of being a powerful voice tonic. The paper ends as follows:

"In conclusion, I desire to express my confidence in the value of cocaïne hydrochlorate when used as a local anæsthetic in the air passages. In every case in which I have used it to allay the pain attending surgical measures in these regions, it has accomplished its purpose. In order to attain success, let me repeat that not only must the region to be operated upon be protected, but also the surfaces immediately adjoining; that the application must be made in a thorough manner, and that it must be of sufficient strength and used freely. Many of the reported cases of partial failure with cocaïne in the larynx are directly the resrlt of leaving areas unprotected. The substitution of proper atomization for the method of application by the brush would, I am sure, render success more certain. I feel that it is unnecessary to refer to the many advantages the use of cocaïne possesses over chloroform, ether, and other anæsthetics in the minor surgery of the nose and throat."

COCAINE IN GYNÆCOLOGICAL PRACTICE. (Dr. George Engelmann in the *St. Louis Courier of Medicine.*)—I have used the hydrochlorate of cocaïne quite freely, but within a very short time only, as I did not at first resort to it, presuming that it would act only on very delicate tissues like the conjunctiva, but not upon heavier mucous membranes; but to my great delight I have had the most excellent results from its use. I have found it most valuable and reliable in reducing the sensibility of the parts in order to admit the use of instruments. I have found it serviceable in reducing the spasmodic contraction in vaginismus and the pain in some forms of dysmenorrhea. I have used it in reducing the pain of coxalgia and the itching in pruritus vulvæ.

ACONITINE IN NEURALGIA (*Progrès Médical*).—The physiological properties so characteristic of aconitine very naturally indicate it as a remedy for combatting painful affections, and especially neuralgia. It gives the most striking results in congestive neuralgia, and in the forms of *dermalgia*, or better, *dermodynia*, which may be called *aerodynie*, and which have their seat in the extremities of the limbs where the corpuscles of Pacini abound. In neuralgia of the trigeminal, the effects of aconitine are truly wonderful. Apropos, we may cite one of the most remarkable examples: "It relates to a subject upon whom Nélaton had practiced resection of all the branches of the trigimenal. The pains had reappeared as horrible, as persistent, as ever. The patient, reduced to despair, and ready to commit suicide, urgently demanded a new operation, and preparations were being made to extirpate the ganglion of Gasser, when, upon the recommendation of Professor Gubler, it was decided to try the effect of aconitine; at the expiration of a brief period of time the patient found himself so well that he said *he felt like he was in Paradise.* Never had any other remedy procured him such durable relief. With pure aconitine one had succeeded in suppressing a tic doloureux, which wrung cries from the patient, and prevented all sleep. The same remedy had relieved one of our most esteemed colleagues of a cruel headache, which had not ceased an instant for several months." Aconitine gives excellent results in the irritative and painful affections of the respiratory organs; as in asthma, spasmodic cough, nervous palpitation, *angina pectoris*, and in the painful acute forms of rheumatism and gout, in which it allays at the same time both the nervous and the vascular erethism. Certain patients are very sensitive to the energetic action of aconitine, and therefore one ought to commence by administering very small and widely separated doses. In order to facilitate the use of this medicament, Dr. Mousette has compounded pills very exactly proportioned, containing the one-fifteenth of a milligramme of pure aconitine. It will be prudent to try the susceptibility of the patient, and to commence the first day by giving three pills, one in the morning, one at noon, and one in the evening. If the first day a marked sedation is not secured, one might gradually increase the quantity by one pill a day, until six are taken in the twenty-four hours; this dose must be adhered to until the cessation of the pains, and, unless in exceptional cases, it will be well not to go beyond it. If there should supervene a little diarrhœa, the dose of these pills might be diminished. To sum up, the physiological studies and clinical histories pursued in the hospitals of Paris, have demonstrated that the sedative action of the Mousette pills upon the circulatory apparatus, through the medium of the vasomotor nerves, indicate their employment in neuralgia of the trigimenal, congestive neuralgia, painful and inflammatory rheumatic affections, etc., etc. It is indispensable that the physician be assured of the source of the aconitine which he prescribes, for very variable effects are obtained according to the source of this substance; it is also necessary that the medicine employed be always identical in its composition, and rigorously exact in its proportions.

DAVID NICHOLSON'S LIQUID BREAD.—This is a pure extract of malt, which during the past year has been rapidly growing in favor throughout the West and South, but which has only recently been introduced in New York. It is learned on the best authority that it is made from the finest materials, and that extraordinary care is used in rendering it as perfect an article of its kind as can be produced. That the efforts made to this end have not been unappreciated, is shown by the fact that at the International Exposition at New Orleans the first prize gold medal was recently awarded it. It is especially valuable, from a medicinal point of view, on account of the large amount of diastase which it contains; and the extremely small quantity of alcohol in it also commends it in a considerable proportion of cases. Its flavor, too, is remarkably fine, and therefore simply as a table beverage it will probably take high rank. A recent number of *The Medical and Surgical Reporter*, in speaking of beer in the vomiting of pregnancy, says: "From the *London Medical Record* we learn that Dr. O. Rodewicz, of Orenburg, describes two severe cases of vomiting of pregnancy, where the patients in the third and fourth month vomited almost hourly, and sickness completely disappeared from the next day after the patients had commenced to drink beer. The successful cases communicated by Rodewicz induced Dr. P. Polansky, of Nijni-Novgorod, to try beer, a glass at dinner and supper, in the case of a primipara aged twenty-five, in the early period of pregnancy, with eight to ten daily attacks of vomiting. On the first day of the treatment the patient vomited only once, after which the sickness disappeared and did not return, although the treatment was continued for only four days." While it is hardly to be expected that every case of this kind can be successfully treated in the manner described, it would seem altogether likely that an article of such a delicate flavor, and which has usually proved to be so well borne by weak stomachs, as the "liquid bread," would be serviceable in a considerable larger proportion of cases than ordinary beer.

TONGALINE.—Dr. Dumars, of Peoria, reports the case of a man about forty-five years of age, the janitor of the building in which his office is located, who had been a sufferer from rheumatism for nearly ten years. The attacks were very frequent and severe, and would not yield to treatment with any degree of certainty. During the paroxysms relief from pain was secured only by the use of morphine, and he was often obliged to use crutches in walking. Dr. Dumars having received a sample bottle of tongaline, gave it to this patient, who derived so much benefit from its use that he took the remedy regularly. Having used three bottles within four weeks, he found himself entirely free from rheumatic trouble, and has experienced no recurrence since, although eighteen months, including two very severe winters, have passed.

TRYPSIN AS A SOLVENT OF DIPHTHRITIC PSEUDO-MEMBRANE.—Dr. Henry Dwight Chapin publishes in the *New York Medical Record* an article on the action of this pancreatic ferment, in the course of which he says: "The trypsin solutions I used were made for me by Mr. Fairchild, and represented by assay the strength of about gr. iv. to ʒj. I have tried the trypsin solution in a number of cases of diphtheria, in which the membrane was abundant upon the tonsils and fauces, with favorable results. It should be applied at short intervals by the spray or brush; in the few cases in which I have thus tried it, the membrane has disappeared more quickly than is usual in my experience. As the ferment is locally unirritating, it can be very frequently applied as long as the membrane continues to form. All the physical conditions in the fauces, pharynx, and larynx are favorable to its action. The important question, as to whether a trypsin solution can practically be utilized to dissolve false membrane within the larynx and upon the vocal cords, remains to be solved. If the membrane can be disintegrated as quickly as it forms, the necessity of tracheotomy may sometimes be avoided. To this end it is of paramount importance to thoroughly apply the ferment within the larynx."

THE INFLUENCE OF CIMICIFUGA RACEMOSA UPON PARTURITION.—At a meeting of the Chicago Gynæcological Society held March 20, 1885, Dr. J. Suydam Knox read a paper in which, from his clinical observations he drew the following conclusions:

1. Cimicifuga has a positive sedative effect upon the parturient woman, quieting reflex irritability,—nausea, pruritus, and insomnia, so common in the last six weeks of pregnancy, are always rendered less distressing, and often disappear under its administration.

2. Cimicifuga has a positive antispasmodic effect upon the parturient woman. The neuralgic cramps and irregular pains of the first stage of labor are ameliorated, and often altogether abolished. In fact during the first indiscriminative use of the drug in all cases, I had the mortification, with a few women, of terminating the labor so precipitately, and without prodromic symptoms, as to be unable to reach the bedside before the birth.

3. Cimicifuga relaxes uterine muscular fibre, and the soft parts of the parturient canal, by controlling muscular irritability, thus facilitating labor, and diminishing risks of laceration.

4. Cimicifuga increases the energy and rhythm of the pains in the second stage of labor.

5. It is my belief that cimicifuga, like ergot, maintains a better contraction of the uterus after delivery.

It is my habit, however, to administer from fifteen to thirty minims of the fluid extract of ergot after the birth of the fœtal head, and I have had but few opportunities of testing this effect of the cohosh. My method of administration has been to give fifteen minims of the fluid extract of cimicifuga in compound syrup of sarsaparilla each night for four weeks before the expected confinement. One fluid ounce of the fluid extract of cimicifuga to three fluid ounces of compound syrup of sarsaparilla,—dose, one teaspoonful,—makes just the required quantity.

THE TREATMENT OF FELONS.—Dr. C. C. Gratiot (*College and Clinical Record*) has cured a number of felons by the following method, an account of which a patient of his suffering from this affection, accidentally saw in one of his medical journals: "Take common salt, roasted on a hot stove until all the chlorine gas is thrown off, or it is as dry as you can make it. Teaspoonful, and also a teaspoonful of pulverized castile soap; add a teaspoonful of Venice turpentine, mix them well into a poultice and apply to the felon. If you have ten felons at once, makes as many poultices. Renew this poultice twice a day. In four or five days your felon will, if not opened before your poultice is first put on, present a hole down to the bone, where the pent-up matter was before your poultice brought it out. If the felon has been cut open or opened itself, or is about to take off the finger to the first joint, no matter, put on your poultice; it will stop it right there, and in time your finger will get well, even if one of the first bones is gone. Of course, it will not restore the lost bone, but it will get well soon."

BIOGRAPHY.

DR. JOHN J. SPEED.—This well-known physician died at his home, in Louisville, on the morning of May 6. Although he had been in feeble health for some months, his death was sudden and unexpected.

Dr. Speed was born in Bardstown, Ky., in 1816. He received his literary education at St. Joseph's Academy, and graduated in medicine from the Transylvania University. He passed his period of professional probation in his native town, from which place he moved to Crawfordsville, Ind., and entered substantially upon the practice of medicine. In 1850 he came to Louisville, where for thirty-five years, as practitioner, professor, and sanitarian, he has done honor to his calling through an ever-widening sphere of influence.

Dr. Speed possessed a vigorous intellect, to which endowment he added the equipments of profound learning and broad culture. A philosophical thinker and a writer of rare talent, he made many contributions to current medical literature, and was a popular essayist before the Sanitary Councils and the State and local medical societies. His sentences were brief, direct, and vigorous; but always carefully finished and marked by peculiar grace of diction. On the rostrum or the assembly floor, he was of dignified presence. He spoke with force and fluency, always to the point, and commanded respectful attention.

Dr. Speed was earnest, humble, and sincere in his daily walk and conversation, above all meanness, beyond all vanity; just to his professional brethren, helpful to his patients, true to his friends, devoted to his family, a physician, a Christian, and a gentleman.—*Louisville Medical News.*

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PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly, cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH. SCIENTIFIC MEETING HELD AT POUGHKEEPSIE, MAY 19, 1885.

Dr. S. J. Murray, of Brooklyn, read a paper on

DIPHTHERIA AND ITS TREATMENT BY CALOMEL.*

In the discussion which followed the reading of the paper, Dr. Alfred L. Carroll, Secretary of the State Board of Health, said that unquestionably the cases reported by Dr. Murray recovered after the administration of calomel; but in listening to the paper a doubt had arisen in his mind as to whether the calomel was in reality the efficient agent in their cure. In the first cases described the sanitary condition of the premises was very bad, and the first thing that the speaker did was to remedy this. Now diphtheria was generally recognized as a filth disease, and it was a fact that a large number of cases would recover without any medical treatment whatever if they were placed under good hygienic surroundings. Again, with the calomel, stimulus and nourishment were very freely given, and he had personally seen cases which recovered very rapidly under the use of stimulus and nourishment alone, without anything more in the way of drugs than an occasional dose of quinine. Fresh air, stimulus, and plenty of food were very potent factors in the successful treatment of diphtheria, and when these are all made use of it was not quite clear, he thought, how far the calomel had assisted in securing the good results noted. There were two other things which he had specially noticed in regard to diphtheria. The first was that the amount of exudation bore no positive relation to the severity of the disease in any given case; and the second that, in his own experience, at all events, the most rapidly fatal cases were those in which the temperature never rose above the normal, or, if it did so, soon became reduced.

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* See page 30 (Original Articles.)

Among the others who took part in the discussion was Dr. Greene, of Buffalo, a delegate from the Fourth District Branch Association, who spoke in terms of the highest commendation of the local use of a solution of persulphate of iron, applied in the form of a spray, in addition to appropriate constitutional measures.

AMERICAN SURGICAL ASSOCIATION. ANNUAL MEETING, HELD IN WASHINGTON TUESDAY, WEDNESDAY, THURSDAY, AND FRIDAY, APRIL 21, 22, 23, and 24, 1885.

THE FIELD AND LIMITATION OF THE OPERATIVE SURGERY OF THE HUMAN BRAIN.

The afternoon session of April 21 was opened with the reading of a paper with this title, by Dr. John B. Roberts, of Philadelphia. The complexus of symptoms called "compression of the brain" was not due so much to displacing pressure exerted on the brain substance as to some form or degree of intracranial inflammation. The conversion of a simple fracture of the cranium into a compound fracture by incision of the scalp was, with the improved methods of treating wounds, attended with very little increased risk to life. The removal of portions of the cranium with the trephine or other cutting instruments was, if properly done, attended with but little more risk to life than amputation through a metacarpal bone. In the majority of cranial fractures the inner table was more extensively shattered and splintered than the outer table. Perforation of the cranium was to be adopted as an exploratory measure almost as often as it was demanded for therapeutic reasons. Drainage was more essential in wounds of the brain than in wounds of other structures. Many regions of the cerebral hemispheres of man might be incised and excised with comparative impunity. Accidental or operative injuries to the cerebral membranes, meningeal arteries, or venous sinuses should be treated like similar lesions of like structures in other localities. The results of the study of cerebral localization were more necessary to the conscientious surgeon than to the neurologist. An elaborate table was then given of the proper points for trephining for various cerebral lesions, and the principles which the reader had maintained were stated to be applicable as follows: *A. Cranial Fractures.*—Simple fissured fractures: 1. No evident depression, no brain symptoms; no operation. 2. No evident depression, but brain symptoms; incision of the scalp and possibly trephining. 3. Evident depression, but no brain symptoms; incision and possibly trephining. (He would be inclined to trephine if the depression was marked, or if the fissures were sufficiently numerous to make the fracture approach the comminuted character.) 4. Evident depression, with brain symptoms; incision and trephining. Simple comminuted fractures: 5. No evident depression, and no brain symptoms; incision and probably trephining. (He would trephine unless the comminution was found to be inconsiderable.) 6. No evident depression, but brain symptoms; incision and trephining. 7. Evident depression, but no brain symptoms; incision and trephining. 8. Evident depression and brain symptoms; incision and trephining. Compound fissured fractures; 9. No evident depression, and no brain symptoms; no operation, but treatment of the wound. 10. No evident depression, but brain symptoms; trephining. 11. Evident depression, but no brain symptoms; possibly trephining (the same remark applying as in the third case.) 12. Evident depression and brain symptoms; trephining. Compound comminuted fractures: 13. No evident depression and no brain symptoms; probably trephining (the same remark applying as in the fifth case). 14. No evident depression, but brain symptoms; trephining. 15. Evident depression, but no brain symptoms; trephining. 16. Evident depression and brain symptoms; trephining. Punctured and gunshot fractures: 17. In all cases and under all circumstances, trephining. *B. Intra-cranial Hæmorrhage.*—Trephining for the removal of the clot and arrest of bleeding when the probable seat of the hæmorrhage was ascertainable and the clot was believed to be localized. *C. Intra-Cranial Suppuration.*—Trephining and, if necessary, exploratory punctures in all cases of abscess. *D. Epilepsy following Cranial Injury.*—Removal of a portion of the cranium in selected cases. *E. Insanity following Cranial Injury.*—Removal of a portion of the cranium in selected cases. *F. Cerebral Tumor.*—If its situation could be ascertained, and if it was probably superficial, removal of bone and excision of the growth, if it was found.

DR. HUNTER MCGUIRE, of Richmond, remarked that in reviewing the paper that had just been read he could find but two instances in which an operation was not advised. This advice, he continued, takes us back one hundred years, to the time when men used to boast of the number of holes they carried in their heads, and when surgeons boasted of the number of heads they had trephined.

There are no set rules that can be laid down for the government of all cases; each case must be a law to itself. There are no two injuries of the skull that are the same any more than there are two faces exactly alike. Referring to the first proposition, he asked how the author could account for the almost immediate appearance of symptoms of compression of the brain in so many cases. A man receives a blow upon the head. The bone is depressed, the brain is compressed, and almost immediately, within a few minutes, or even within a few seconds, symptoms of depression are manifested. Is it possible that an inflammatory exudation could have developed so rapidly? Such, to the speaker, seemed almost impossible. The author has compared the use of the trephine to the amputation of the metacarpal bone. It was either Cooper or Hunter who said that there was to the patient between the trephine and eternity a little thin sheet of paper. How the author came to the conclusion that the application of the trephine was so simple a matter the speaker could not comprehend. He asserts that a man may even be trephined and immediately go to his home. With no disrespect, the speaker wished to know to which home Dr. Roberts referred, and whether it would not, in a great many cases, be the "long home." With regard to the importance of drainage in cerebral difficulties, he agreed with Dr. Roberts. In the last case of trephining which he had performed, he had taken out a piece of the scalp of a size to correspond to the size of the trephine, in order to secure thorough drainage. He then narrated several cases in which he had made use of the trephine. In one case, in which an individual had been insane for nine years, the day following the operation he spoke of events as occurring yesterday which had occurred nine years before, and uttered the first coherent words for that period of time.

DR. MOSES GUNN, of Chicago, recalled the position he had taken in a discussion of the same ground covered by this paper three years ago, when he had advocated the early operation in cases of cranial fracture with symptoms of depression, and had endeavored to advocate the rule that in simple or closed fracture the bone should be elevated as in compound fractures, taking the ground that aseptic measures as now practised avert the danger that would otherwise exist in the conversion of a simple into a compound fracture. This rule, he thought, if properly applied could be employed not only with safety but with benefit to the human race. With regard to the first proposition laid down by Dr. Roberts, he agreed, and believed that in many cases the symptoms arise not from depression but from irritation and imflammation. Mere mechanical compression of the brain is not a symptom of importance. As stated by Dr. Briggs in the discussion referred to as occurring three years ago, if compression of the brain was all that was to be feared, he would never use the trephine, because the brain would soon accommodate itself to the new pressure. The danger is in the changes of nutrition that follow. He did not go so far as Dr. Roberts, however, and say that there are no such symptoms as those of compression. These symptoms, he thought, were too distinctive in their character and came on too soon after the accident to be due to any other cause. There is then mechanical compression, and not irritation or inflammation. But that mechanical compression does not require the application of the trephine. The danger of permitting the pressure to remain is that it may become permanent and excite irritation and inflammation that may do injury, in giving rise to secondary symptoms.

DR. C. B. NANCREDE, of Philadelphia, agreed with the writer of the paper in many points, but differed from him in a number of others. As to the first proposition, he agreed with the previous speaker. If Dr. Roberts were to call it secondary compression he would agree with him in the conclusion: that it is due to some form of inflammation. Compression of the brain produces sudden and violent contraction of the vessels of the brain in the vicinity of the compression. It is an error to associate in our minds the dangers of compound fractures of the cranium and compound fracture of other bones. They are not to be compared. In considering any operation we must consider the complications that may arise from it in the most skilled hands. He could hardly conceive how a serious complication could arise from an amputation of the metacarpal bone, but he could very easily understand how serious complications could arise from operative procedures upon the skull. In referring to the fifth conclusion, he remarked that he would be very sorry to have his cranium perforated as an exploratory measure. The importance of drainage he considered well established. On the seventh proposition he differed from Dr. Roberts. Nearly all the cases of operative procedure for brain-tumor have terminated fatally. The treatment of wounds of large arteries and veins, he said, is manifest, but, he added, in all cases where there is reason to suspect that a coronal sinus has been wounded, we should act as though that sinus had been wounded. He was cognizant of one or two cases in which the patient perished before the eyes of the operator because that assumption was not made. With regard to the study of cerebral localization, he agreed with Dr. Roberts, and believed that we are now fairly acquainted with the motor centers. There are few of them so well located, however, that we can be sure of the point that should be uncovered. As for the reasons for the application of the trephine, he agreed in some of them with the author and differed in others, but considered the subject one that should be given more deliberate investigation. From his investigations, he would place the mortality at about 10 per cent.

DR. W. F. PECK, of Davenport, Iowa, said that he coincided, in the majority of instances, with the opinions expressed in the paper. The first thing to decide in accidents to the skull was whether any injury had been done to the brain, and then whether pressure was being exerted upon the intracranial contents. The secondary consequences certainly call for other interference than therapeutic. Several cases were then narrated to illustrate his views on the subject. He had had about six cases, and in their treatment he had endeavored chiefly to remove pressure and to establish drainage, which being secured the result was, as a rule, favorable.

DR. T. F. PREWIT, of St. Louis, thought that the propositions presented were entirely too sweeping. Compression certainly depended on other causes than inflammation. It might take place from depressed bone, and frequently resulted from a collection of blood, although it took place more slowly. It seemed to have been overlooked that the results of a blow on the head were not due entirely to the fracture, but depended upon the amount of injury inflicted upon the brain and its membranes. Although under antiseptic precautions we were able to control inflammation, he did not consider it proper to convert a simple fracture into a compound one without good reason. In cases of simple depression without any symptoms, unless the character of the injury was such as to make us believe that the inner table was driven in sharply, we could afford to wait. In regard to hæmorrhage, where there was much hæmorrhage going on, and so pressing upon the brain as to destroy the life of the patient, it would be advisable to operate; but, unless such was the case, it would be wise to wait, for the blood would certainly be absorbed.

DR. CHARLES T. PARKES, of Chicago, described a case illustrating the amount of injury which might be inflicted on the brain without the production of positive symptoms. A man received three fractures of the skull, one being a depressed fracture of the vault. This was trephined and a drainage-tube introduced. On the fourth day there ensued a free flow of cerebro-spinal fluid. The only explanation of this was the possibility of a laceration of the brain substance communicating with the ventricles. In similar cases reported by Dr. Lucas, this condition was found post mortem. In reference to injuries of the longitudinal sinus, in a case which he had seen, where a ligature could not be applied, he checked bleeding by stitching the edges of the vessel together. The patient recovered.

DR. J. COLLINS WARREN, of Boston, said there was great difficulty in securing free drainage in wounds of the brain. He would give some cases showing the difficulty of diagnosis. The first was that of a child with a depressed fracture. No symptoms were presented for a week, when complete deafness was noted. The child soon died, and at the autopsy pus was found in the fourth ventricle. In a second case the patient was unconscious and delirious for four weeks before death. At the autopsy no lesion of the brain could be detected, but a considerable quantity of clotted blood was found in the peritoneal cavity. He had also seen symptoms simulating those of injury of the brain arise from periostitis and possible cellulitis at the back of the neck. Another case would serve to illustrate some of the remarks made in reference to the localization of cerebral lesions. It was one of injury of the head, in which there was at first paralysis of the lower extremities, then paralysis of the arms, and finally paralysis of the face. These succeeded each other in regular order, and, as they disappeared in the same order, they were attributed to an effusion of blood into the upper part of the cranium, which gradually gravitated, producing the symptoms referred to.

DR. LOUIS MCLANE TIFFANY, of Baltimore, wished to refer to one or two points which had not been alluded to in the paper. The first was that we must draw a line between the fractures occurring in childhood and those occurring in adults. In children he had seen the depressed bone resume its normal position, the child showing no bad effects from the injury. The second point was in regard to the differences between the white and negro races. In the latter, fracture of the skull, and in fact any injury, was less serious than in the white race. There was no doubt about the different course that inflammation took in the two cases.

DR. S. W. GROSS, of Philadelphia, considered drainage of wounds in the brain as more essential than in wounds of other portions of the body, because the pressure of inflammatory products interfered with the proper function of the brain. It was exceedingly difficult to drain the brain. Dr. Noyes, of New York, had done it several years ago by making a counter-opening and passing a drainage tube through, and the patient recovered. The question of trephining in gunshot injuries had not been referred to. This was important from a medico-legal standpoint. We should apply to these injuries the same principles which governed us in the treatment of injuries of the soft parts in other situations. Reference was then made to the case described by Dr. Fluhrer in a recent number of the "*New York Medical Journal.*"

DR. E. M. MOORE, of Rochester, thought that one of the most successful improvements in the treatment of wounds was drainage. The idea of using drainage-tubes was of modern origin. In the cases of gunshot injury which he had seen he had uniformly found that the ball traversed the brain, usually with force enough to pass at a reflected angle a little away from the point where it impinged. In his last case he had trephined over this latter point and found the bullet. He then attempted to pass a drainage-tube through the wound, but was unable to do so. It seemed to him that this was the proper plan to pursue.

The discussion of Dr. Roberts's paper was resumed on Wednesday.

DR. DAVID PRINCE, of Jacksonville, Ill., was in general accord with the teachings of the paper. From being one of the most dangerous operations, the use of antiseptic methods has made trephining one of the safest. The comparison of trephining to the amputation of a finger was probably an exaggeration, but it was as easy to prevent putrefactive changes in the one as in the other. If, however, such changes took place in an amputation wound, they did not necessarily endanger life, while if they occurred in trephining wounds loss of life was almost certain. An important element in the success of these operations was rest, which should be enforced absolutely.

DR. JOHN H. BRINTON, of Philadelphia, thought that in all cases of compound fracture of the skull with depression, with or without symptoms, the treatment was clear. The only cases in which there was doubt was where there was a simple depressed fracture without symptoms or with only slight ones. In such cases the patient was exposed to certain dangers, and to avoid these he would use the trephine.

DR. T. MCGRAW, of Detroit, would take exception to the statement that compresssion in itself was not such a very bad thing, and that the brain would accommodate itself to pressure. This was undoubtedly true of children, but he did not think it was true of adults.

DR. P. S. CONNER, of Cincinnati, said that if, in a depressed fracture, we removed the bone, we gave the patient a chance to avoid the consequences which might come. The operation was not a trivial one, the mortality following it in cases of epilepsy amounting to some ten per cent. We could not tell how much splintering there had been of the internal plate, and it was not the part of wisdom to leave the patient to the dangers of meningitis. Of course, as had been stated, the conditions in children were different.

DR. B. A. WATSON, of Jersey City, related a case illustrating the accommodation of the brain to pressure.

The President, Dr. BRIGGS, of Nashville, thought these questions were among the most vexed in surgery. There was one point to which the paper had not referred. There might be a diffused injury of the skull, as where a person fell from a height, striking the head. In such a case the injury was not limited to the cranial walls, and trephining was of no service. In another class the injury was localized, and only slightly affected the brain. It was only in these cases that trephining was of service. In cases of compression from depression he thought that, except in rare instances, the trephine was unnecessary; the symptoms were due to other causes than the depressed bone. In the case of hæmorrhage it was proper to use the trephine to relieve the pressure, but in the majority of cases it was useless. In abscess, it should be used on the same principle that we gave vent to pus in other parts of the body. The proper purpose of trephining, in his opinion, was to remove points of irritation produced by spicules of bone, and it should be resorted to at the earliest possible moment, before pathological conditions had appeared which could not be cured. In regard to the conversion of a simple fracture into a compound one, it had always been his practice, where there was any doubt about the nature of the injury, to make an incision down to the bone and examine it carefully. This had never been followed by any bad consequences. The danger of trephining depended on circumstances. The simple removal of a button of bone he did not think could be attended with much danger. The danger depended on the associated injuries.

DR. ROBERTS said there were many points in the discussion to which he would not attempt to reply. The speakers had confounded the terms compression and pressure. Compression he used in the same sense as squeezing. The conditions found in the skull prevented the possibility of compression from a circumscribed depression. The symptoms immediately following depressed fracture he would ascribe to laceration, contusion, or possibly the obscure condition termed concussion. He thought the inflammation might develop with great rapidity in the brain, as it did after injury of the eye. Closed wounds were better than open wounds, but he preferred trephining to obscurity in head injuries. He cited statistics showing that the mortality of trephining was 3.5

per cent., while the mortality of amputation of the finger was 4 or 5 per cent., thus authorizing the statement made in his second proposition. He then referred at some length to Dr. Fluhrer's case. He admitted that in children and negroes the effects of depression were not so marked as in adults of the white race, and described an illustrative case. He did not advocate trephining in all cases, as would be seen by a careful reading of his propositions. He thought that in the course of a few years the views which he had presented would not meet with the opposition which had been shown to-day.

NEPHRECTOMY: ITS INDICATIONS AND CONTRA-INDICATIONS.

This was the title of the next paper, by D. S. W. GROSS, of Philadelphia. He had collected the statistics of two hundred and eleven cases of extirpation of the kidney, with one hundred deaths, or 47 per cent. The operation was a grave one and was done too frequently. The intention of his paper was to point out the indications for different operations on the kidney. The lumbar operation was safer than the abdominal, its mortality being 11.5 per cent. Nephrectomy was indicated in cases of sarcoma in adults. In fifteen cases six patients had recovered, four living an average of thirty months. One was alive at the end of five years. It was indicated for benign tumors of the kidney. It was indicated, also, in early tuberculosis of the kidney. In twenty cases twelve patients had recovered, and lived twenty months on an average. It was indicated in rupture of the ureter. Where there was subcutaneous laceration of the kidney, he recommended exploratory incision and drainage, reserving extirpation as a final operation. Where the kidney protruded other measures should first be adopted.

In recent wounds of the kidney or ureter, in such operations as hysterectomy and ovariotomy, he thought extirpation should not be done as a primary operation, on account of the danger from the combined shock. In suppurative affections of the kidney nephrotomy had better be resorted to. In independent cysts of the kidney nephrectomy had been performed thirty-two times, with fourteen deaths; nephrectomy had been resorted to thirty times with four deaths. In this operation the patient was, however, subjected to the risks of urinary fistula. In renal calculus, nephrectomy had been performed three times; all the patients recovered. Nephro-lithotomy had been resorted to twenty-one times, with two deaths. In floating kidney there had been twenty-two nephrectomies, with thirteen recoveries. The operation was contra-indicated in sarcoma of the kidney in children. There had been thirteen cases, with four recoveries; in these cases a recurrence took place in four, six, nine, and eighteen months respectively. Carcinoma of the kidney was another contra-indication. Twelve cases had been operated on, with two recoveries, one patient living forty-four days, the other sixty days. In the advanced stage of tubercular disease it was also contra-indicated. In such cases there was tubercular disease of other organs.

NEPHRO-LITHOTOMY.

DR. L. MCLANE TIFFANY, of Baltimore, read a paper on this subject, in which he described an operation in which a stone weighing five hundred and fifty-six grains had been removed. An extended account was given of the indications of the operation in general and of the technical details. The author thought the best plan was to make the opening into the kidney at the point which was exposed. He did not think it well to disturb the organ more than was necessary.

The subject was discussed by Dr. Gross, Dr. Gouley, Dr. McGraw, Dr. Conner, Dr. Prewit, and the author of the paper.—*Philadelphia Medical News and New York Medical Journal.*

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ORIGINAL CORRESPONDENCE.

"THE PHYSICIAN HIMSELF."

Spring Valley, Grayson Co., Va.,
June 6, 1885.

To the Editor of "Gaillard's Medical Journal."

SIR: In your notice of "The Physician Himself," by W. Cathell M.D., in the May number of GAILLARD'S JOURNAL, do I understand you to mean that the author's object is low craft and without candor ? Is it candor to both approve and condemn a thing in the same article ?

To those whose ways are established, who have learned what, when, and how to do in the school of experience—and, by the way, I may add that doctors go to it probably as often as fools of any other class—to those who know from their own past how to shun the pitfalls, the temptations, the everything so plainly and earnestly treated of in "The Physician Himself," the book may seem to have about it an air of policy, if they fail to remember that there are thousands in the field who need the conclusions of a careful observer. It was, I suppose, to the inexperienced that Dr. Cathell addressed himself. Feeling myself to be one of that number, I am glad his little book found its way to my hands. I know nothing about Dr. Cathell only from his book, and my object in this article is simply to express my sentiments. Publish this, Mr. Editor, and if the thousands who have read "The Physician Himself" will not stand by me I will stand by myself. I am, sincerely,

G. W. KERNVILLE.

[It is precisely because the book is designed principally for the guidance of the young and inexperienced that it is liable to do harm. The physician should, above all things, have a high ideal in commencing his professional career; and few young men thus starting out could read this work without having that ideal appreciably lowered. The debasing elements will be met with soon enough in the struggle of life, without having one's sensibilities dulled at its very outset. As was mentioned in the notice referred to, there is much sensible and admirable teaching in "The Physician Himself," but the general tone of the book is on a low plane of moral feeling and its animating spirit is pernicious. In a recent editorial the New York *Medical Record*, after referring to the criticisms of Dr. J. B. Murdoch on the unsound ethics inculcated in the work, very wisely says: "We call attention to these points, because it has happened that Dr. Cathell's book has been widely circulated and almost uniformly endorsed. A little thought will convince any one that its teachings are not perfectly safe, and that the principle *videre quam esse* pervades it to an unpleasant and dangerous extent."—ED.]

REVIEWS.

CLINICAL STUDIES OF DISEASES OF THE EYE, INCLUDING THOSE OF THE CONJUNCTIVA, CORNEA, SCLEROTIC, IRIS, AND CILIARY BODY. By DR. FERDINAND RITTER VON ARLT, Professor of Ophthalmology in Vienna. Translated by LYMAN WARE, M.D., Surgeon to the Illinois Charitable Eye and Ear Infirmary; Ophthalmic Surgeon to the Presbyterian Hospital and to the Protestant Orphan Asylum, Chicago. Philadelphia: P. Blakiston, Son & Co. 1885.

The original text of this work was published a year or more ago, and at once met with great success. This result was not to be wondered at, when we remember that its author is the most renowned living clinical teacher in ophthalmic science. The work is divided into four general parts. The first of these treats of diseases of the conjunctiva, and is sub-divided into Inflammatory and Non-inflammatory affections. The author regards the croupous or membranous form of conjunctivitis as relatively rare, and as probably caused by noxious atmospheric influences. In the section on Blennorrhœal Conjunctivitis, a note on jequirity as a therapeutic agent has been added by the translator. We think that the use of the term *pannous*, as an adjective is to be regretted. The word has been coined unnecessarily, and is an awkward expression at the best. In the section on Diphtheritic Conjunctivitis, the author takes occasion to state his belief that the turbid secretion contains a *contagium* which differs essentially from that of Blennorrhœa, and this he calls diphtheritic microspores. It is a very rare disease, observed only in certain districts and in certain seasons. It is not in all cases to be referred to infection, but to some of the lower organisms (micrococci), developed in dark, damp, overcrowded, and poorly ventilated dwellings, finding a suitable soil in the mucous membranes of the throat and conjunctiva of children who are poorly nourished. The section on Tuberculosis Conjunctivæ is interesting. The subject of Granular Conjunctivitis, acute and chronic, or Trachoma, is conspicuous by its absence, and this is much to be regretted. In Part Second the author discusses the subject of Interstitial Keratitis in the adult, pointing out that it is sometimes a local disease and sometimes a secondary inflammation, consecutive to Irido-Cyclitis. The section on Suppurative Keratitis, including Abscess of the Cornea, is very full and satisfactory, and replete with valuable clinical observations. Parts III. and IV. treat of diseases of the Sclerotic, Iris, and Ciliary Body, and here we again meet with the keen observation and marvellous judgment of the renowned clinician. The book is very valuable, especially to the general practitioner The translator's work has been well done, and many new facts in therapeutics have been added, such as the use of cocaine hydrochlorate as a local anæsthetic, which add to the value of the work. The type and paper are all that could be desired.

ANNUAL REPORT OF THE SECRETARY OF THE NAVY FOR THE YEAR 1884. IN TWO VOLUMES. VOLUME II. REPORT OF THE SURGEON-GENERAL OF THE NAVY FOR THE YEAR 1883. Washington: Government Printing Office. 1884. Pp. 373.

The first thing that strikes one on looking at this Report is the remarkable fact that, with the present somewhat infinitesimal size of the United States Navy, the Surgeon-General should be able to get up such a bulky volume without including in it some account of the diagnosis and treatment of the cases of the numerous sick and disabled men-of-war included in the naval forces of the country, to say nothing of a report of the autopsies made upon the defunct among the same. That the treatment of these lubberly invalids is a pretty expensive matter, and not always of a very satisfactory character, is evidenced by a remark made by Secretary Whitney on returning from a visit to the Omaha, which had just been repaired at an expense of half a million at the Portsmouth Navy Yard, to the effect that he had been looking for the $500,000 spent on her, and had not been able to find it.

While, however, there have been enormous appropriations for patching up the old war ships, the provision for the medical treatment of the poor tars seems to have been of the most scanty sort, since Surgeon-General Gunnel says of the naval hospitals: "The several naval hospitals at Chelsea, New York, Philadelphia, Norfolk, Washington, and at Mare Island, California, have been kept in as efficient condition as the limited appropriation for repairs of hospitals would permit. Serious embarrassments have arisen from the insufficient number of employés to tend the sick, and to take care of the buildings and grounds."

The report in regard to the Museum of Hygiene is very satisfactory, and from it we learn that during the year 240 articles for exhibition were received, giving a total of 650 in the collection. The number of bound volumes added to the library during the year was 1,839, the total number being 7,049. The experimental laboratory connected with the museum has all requisite apparatus for work, both in organic and inorganic chemistry; also apparatus designed for special investigation, as Koch's, for germ culture; Hemple's gas apparatus; Winkler's gas apparatus, and that of J. Burdon-Sanderson for physiological experiments; together with the spectroscope, polariscope, photometer, and other special instruments. Connected with the laboratory is the division of microscopy, which is essentially complete in outfit, and photomicrographic work, as well as ordinary photography, can be satisfactorily done. A number of articles which were on exhibition in the International Health Exhibition, London, last year, have been recently purchased, including the apparatus designed by Mr. Francis Galton, for anthropometrical examinations.

In the conclusion of his report Dr. Gunnel makes an earnest appeal in regard to the matter of post-graduate instruction. For many years, he says, the Bureau has been impressed with the necessity for post-graduate instruction for its young medical officers, and repeated efforts have been made to establish some form of school or institution in the medical department; but these have not been as successful as was desired. Consequently he recommends that tickets for the principal subjects of the courses in the post-graduate schools of New York, Philadelphia, and Boston—three months each—shall be purchased, so as to enable a certain number of officers to attend the instructions during the Winter and Spring months. At his request, the three medical officers of the Greeley relief vessels attended at their own expense, selected courses on subjects of principal interest to them, and he regrets that he was not enabled to provide them with tickets for the full course. The Navy Department has exhibited much generosity, he states, in procuring for its officers all possible privileges of post-graduate education at Annapolis, at the torpedo station, and more recently in the installation of the College at Coasters Island, and he very forcibly urges the plea that it cannot be less important that the younger medical officers should enjoy similar advantages at the polyclinic schools.

Among the other matters besides Surgeon-General Gunnel's personal report found in the volume are the following: General Sick—Report of vessels; Reports on the sanitary condition of the North Atlantic, South Atlantic, Pacific. European and Asiatic stations, all through which are given many useful observations and details of noteworthy cases; Reports on the sanitary condition of the Naval Hospitals, the Navy Yards, Academy, Barracks and stations; and extracts from the special reports of surgeons attached to various vessels, many of which are of great interest. There are also most valuable and attractive reports on the medical history of the Empire of Japan by medical inspector Newton L. Bates, the sanitary and medical aspects of India, by Surgeon George W. Woods, the condition of the Naval Medical School at Haslar, England, by Medical Director J. M. Browne, and the United States Fish Commission steamer Albatross, by Passed Assistant Surgeon C. G. Herndon.

In his report on the medical history of Japan, Dr. Bates says that leprosy which, so far as known, has never been communicated to the white races in Japan, and even passes by the filthy Chinaman, seems to a certain extent to be endemic, and in some cities and villages it is quite common. There is a hospital for the disease in Tokio, where a considerable degree of success is claimed for its treatment, but most lepers live quite comfortably in the houses of their families or friends. Kakke, or beriberi, thus far in the history of Japan also of little importance in its disposition to affect foreigners, is a very serious disease in its effects upon the Japanese; and although the mortality from it does not seem to be so great as in India, and while it only prevails from April to September, it is met with over almost the entire Empire. Syphilis, he states, is very prevalent both among foreigners and natives. There are several venereal hospitals—the first of which was established at Yokohama in 1867—and a system of inspection of hospitals in all cities, with few exceptions, where legalized houses of prostitution exist.

In his report on India, Dr. Woods says, that at Vizagapatam those afflicted with beriberi, with their shuffling gait and pseudo-paralysis, are legion, but are here especially amenable to treatment; a course of ferruginous tonics and good feeding being all that is necessary. Quinetum is largely used in the hospitals for all malarial troubles, and is considered a proper substitute for quinine. As an aphrodisiac, hashish is almost universally used in the form of solid extract of the cannabis indica, and to the use of this drug, as well as the general disposition towards venereal excesses, Surgeon-Major Smith, the chief medical officer there, attributes the large amount of insanity in this province. In the fine medical college hospital at Calcutta about 40 cases of strangulated hernia requiring operation are treated annually. Strangulated hernia is very common among the natives, and the ice treatment is found successful in the majority of cases. In operating, the special method of Dr. McLeod, one of the principal surgeons in attendance, is that of cutting off the sac, which has always resulted satisfactorily. Elephantiasis is very common, and operations are frequent, the method being now invariably with the use of the Esmarch bandage. Further on he says: "The diseases of Calcutta are preëminently malarial affections, prevailing at the beginning and close of the rainy season. Dysentery and diarrhœa are frequently met. Dengue is common, and a full account of an epidemic of this disease on board the Juniata, which had its origin in the Hoogley River, has been already introduced. Cholera is endemic, and this is not to be wondered at when we consider the manners and habits of the natives, especially where they are compelled to drink tank water, or even river water, contaminated with every form of filth. At about the period of our visit to Calcutta there was a fatal epidemic of the disease in a village on one of the branches of the Ganges not far from the metropolis. It was traced directly to the contamination of the river water with the sewage from a cemetery where those dying of cholera in a previous epidemic had been buried."

In the course of his report Dr. Woods gives interesting accounts of the cinchona cultivation, snake bites, the deaths from which in British India annually are estimated at 20,000, and the parangi disease or "Spanish pox," the latter, he says, has recently received careful study. It is a disease found in every district of Ceylon, but more especially in the southern districts, where, in 1879, 6,758 cases existed, and throughout the island, 10,305. Parangi, he goes on to say, seems to have been known from ancient times, but after the introduction of syphilis and other foreign affections characterized by eruption, its diagnosis became confused. It has a striking resemblance to yaws, is not unlike pellagra, and is easily confounded with the syphilitic eruptions; yet it seems to have distinctive diagnostic signs. The etiology of the disease is by no means established, but official inquiry points to insufficient and innutritious food, particularly the absence of meat and the substitution for rice of a poor grain known as kurrakan, to filthy habits and surroundings, and to the drinking of impure water from nearly exhausted tanks—artificial lakes—where the cattle wallow through the day. Microscopic examination has thus far discovered no bacillus or determined any peculiar condition of the blood or secretions, The disease is undoubtedly contagious, and the weight of evidence seems to prove that it is not hereditary or transmitted through natural secretions. All are subject to the disease, but absolute contact of discharges is required—not necessarily an abraded surface—for its propagation. It is only, however, in the debilitated that its worst forms are manifested, and only in those cases does it seem to affect longevity, or even the general health. Once cured, a recurrence of the disease is doubtful.

Parangi has been divided by Dr. Kynsey into three varieties and four stages, and the symptoms as described by Mr. Garvin, M. B., are given with considerable detail by Dr. Woods. Early writers on the disease, he then states, have considered that it is a form of syphilis, but this has been completely disproved by the careful consideration lately given to the subject; and the same investigation has proven that it is not a form of leprosy, pellagra, or yaws, but a disease *sui generis*. From syphilis it is distinguished by the absence of the ordinary signs of that affection when it is a disease of inheritance; and where the osseous system is affected in parangi it is always due to the abuse of mercury, and does not properly belong to the history of the disease. The character of the eruption sufficiently distinguishes it from lupus, and from leprosy it is easily diagnosticated by the absence of the enlarged ear lobes and the characteristic anæsthesia. As regards inoculation, which is employed to acquire yaws in the West Indies, no reports have as yet been made by the medical officers of Ceylon, though instructed to employ it. In the reports for the year 1871, Mr. W. D. Wright makes the following allusion to a custom prevalent in remote parts of the Vanori district. This custom is " to make children, when they are about one year old, partake of rice off a leaf or plate on which a person suffering from the disease has eaten. In a short time pustules appear, resembling itch, on the child's body, and then medicines containing minute portions of mercury are administered, which cause the pustules to dry up in seven days, and the scabs to fall off, leaving deep marks, which, in course of time, disappear. It is said that it is an almost certain prophylactic, and that though the disease may attack one who has been so guarded, the effects are never serious." From these intimations it will be seen, it is believed, that there is a great deal of very interesting matter in this volume of reports of the Bureau of Medicine and Surgery of the Navy Department.

SANITARY SUGGESTIONS, OR HOW TO DISINFECT OUR HOMES.—A Résumé of the Latest and Best Information on the Household Use of Disinfectants, Deodorants, and Antisceptics, and of Practical Precautions Preventive of Cholera, Diphtheria, Scarlet Fever, and other Infectious Diseases. Prepared for Popular Perusal, by B. W. PALMER, A.M., M.D. Detroit; GEORGE S. DAVIS, 1885: pp. 58, Paper, Price, 25 cents.

This is a very sensible little book, and will prove of inestimable value to thousands of families all over the land. It disposes of many popular fallacies, and presents, as is claimed on the title page, a résumé of the latest and best information of the subjects on which it treats. In doing this the author has availed himself freely of the recently published reports of the Committee on Disinfectants of the American Public Health Association, and there can be no doubt that his efforts to disseminate in a condensed and lucid manner sound views on household sanitation will accomplish much good in the community. The purpose of the work is thus indicated in the preface: "To briefly present the most approved agents for the prevention of infectious diseases, point out the necessity for their use, and explain their application so that any one of ordinary intelligence may be able to efficiently use them in the household, is the object of this little *brochure.*"

REPORT OF THE EPIDEMIC OF TYPHOID FEVER AT PLYMOUTH, PENNSYLVANIA. Reprinted from the proceedings of the Philadelphia County Medical Society, May 13, 1885.

This report ends with the following significant language, which ought certainly to serve as a warning to many other communities all over the land:

Although those people who used the water from the pumps in the town escaped at first, it was now found that the new cases developed in those who used well-water. This was due to constant neglect to disinfect the excreta of the patients sick with the disease. In many cases they were thrown only a few feet from the well, and in this way the well-water was now becoming contaminated. The people early became afraid of the hydrant water, and were now in great numbers resorting to the wells. Therein is the danger of a continuance and further spread of the epidemic.

Notwithstanding the frightful lesson which the one case of the fever along the source of water supply had taught the doctors and the people, not one precaution against the possibility of secondary infection from the sick in Plymouth had been taken. Drs. French and Shakespeare were the first to inform the local Relief Committee and the people of their present danger, and to draft for them sanitary rules looking to disinfection of the excreta, and to rendering the drinking water, milk, and food harmless. They had occupied none of their limited time in looking into the milk or other food supply, for the reason that these could not possibly have been so universally contaminated as would have been required for them to have caused the sudden outbreak all over the town.

They regarded this Plymouth epidemic of typhoid fever as unique in many respects. It is one more proof that there is required for the production of typhoid fever something more than the mere contamination of drinking water by common sewage or fæcal matter; that, on the contrary, for the production of the specific, infectious, and altogether characteristic disease known as typhoid fever, there must be introduced into the human organism a specific, infectious, and characteristic cause, which is elaborated by and transmitted from a previous person sick with the disease.

It is one more example of the great injury to the public which may follow neglect of the use of disinfectants in the handling of isolated cases of infectious disease, and it is one more rebuke to those who, in spite of our modern knowledge concerning the infectious nature of typhoid fever, constantly neglect the practice of systematic disinfection.

BABYHOOD: A MAGAZINE FOR MOTHERS, Devoted Exclusively to the Care of Infants and Young Children. LEROY M. YALE, M.D., Medical Editor; MARION HARLAND, Editor of General Nursery Topics. New York: The Babyhood Publishing Co., 13 Spruce Street. Price, 15 cents a number.

Several numbers of this new and attractive little magazine have been received, and they are all admirable. The journal is simply invaluable to those having charge of little ones, containing, as it does, so many hints that are of practical service in enabling them to perform their responsible duties in an intelligent and satisfactory manner. Dr. Yale is peculiarly well fitted for the position which he occupies, and all the articles on medical hygiene and sanitary subjects are of great practical utility and prepared by writers of the highest eminence in their various branches, while the reputation of Marion Harland is such as to give the assurance to all mothers that they will find in the department under her charge just the information, conveyed in a bright and attractive manner, which they need in the general management of their babies. Many fond mammas imagine, no doubt, that nobody can teach them anything about the care of infants and young children; but if any such will read one number of "Babyhood" through, it is safe to assert that they will find a number of points on the subject which they never dreamed of before.

MISCELLANEOUS.

THE PROFESSION OF MEDICINE AND THE STATE.—In the admirable address delivered by Mr. St. Clair McKelway before the graduating class of the Long Island College Hospital, at the Brooklyn Academy of Medicine, June 3, there is much sound advice, and the portion of it treating of the relations between physicians and the State is herewith subjoined.

As a class and as individuals, resist the tendencies of the day, which would articulate you with the political system of the state. Be not deceived by specious argument for making you an annex unto Cæsar. As citizens render unto Cæsar the things which are Cæsar's. As physicians, find within your own fraternity the forces of your fellowship and the guides of your action. Civil government has wisely made sanitary administration a part of the police powers of the people. That is well. Tempered by lay moderation and acting through judicial tribunals, State and local boards of health are doing a good work. They are to be respected and encouraged. But the limit within which authority can wisely utilize or regulate medicine has been reached. The whole temporary endeavor to make the State a doctor-factory is based on mingled sciolism and demagogy. The medical profession can be trusted to reinforce itself from the intelligence of the community and by the spirit of its members, subject to general, uniform, and simple laws for registration. The theory that your colleges should be deprived of their charter powers and be but cogs in the wheel of a central bureaucracy is all wrong. It would put your profession within the control of politicians, who would make your entrance into your calling determinable eventually by their tools, not by the men whom the body of the alumni are glad to recognize as their leaders and mentors. The beautiful working of this proposed plan cannôt be too highly commended. The men who instruct and examine students should have no part or lot in licensing them to practice, because they are interested parties. See how this would result: Admittedly the ablest physicians and surgeons are in request for college teachers. The faculty of any college comprises now, or at times in the past has comprised, and on steady or emergent call can comprise, the cream of the talent, genius, and character of the profession over large areas. But because of this very recognition of their preeminence they must be disfranchised from the right of passing on the students they have taught, counseled with, and guarded through the years of study. They must pass the question of the sufficiency of their own work, and of the qualifications of the pupils they have prepared, over to the decision of those whom colleges, for causes satisfactory to them, have not admitted to or have retired from their corps of instructors. Doctors, by act of the legislature, would be quickly followed by prescriptions according to the enactment of the Senate and Assembly. I am aware that the plausible argument for this theory is that the community must be protected from quacks. It would be a good thing to be able to protect the community from poverty, from heresy, from superstition, and from dudes. But do you think that can be done by legislation, when the body of the community, afflicted by these ills, and deeming some of them not to be ills at all, elects the legislature? The best commentary on these attempts is that, whenever legislation is asked for a State system of medicine, every different school of teaching wants a bill of its own, a board of its own, privileges of its own making, and restrictions of its own providing. Existing laws against quackery are sufficient if enforced; at least they go as far as the clumsy instrumentalities of general government will permit. The quackery you cannot reach is that covertly or overtly practiced by the humbugs, adventurers, charlatans, and demagogues in your own calling; it is that which is bottled and patented under Federal law on the shelves of your drug stores; it is the avidity to be imposed on, experimented with, and cheated in the minds of hundreds of thousands of credulous and ignorant men and women. The needed reform is educational and not legislative. People cannot be legislated into virtue or enacted into intelligence, and when the day comes which harnesses the medical education in the State to the political system of the State, you will see medicine dragged in the mire of politics, with the demagogues of your calling at the front of it, as pliable as putty in the hands of the machine bosses, sitting in the shadow.

THE BEST MEDICAL LITERATURE.—In the same address occurs the following: I have advisedly inculcated you to foster the highest ideals of your profession. You can do it by habitual study of its literature; by being careful to form close friendships only with your peers; by intellectually examining, labelling, and classifying the types of characters, manners, and habits in those you meet, as you would varieties of plants, were botany, quite properly one of the cognate studies of your calling, your main pursuit in life. By the literature of your profession I mean not merely the standard books by your eminent men, but the transactions of representative county and State societies and associations, and the reports of cases communicated to the leading medical journals. You can discriminate between doctors who rush with trivial cases into medical prints, having previously imparted an outline of them to newspaper reporters, and doctors who have no smaller motive than to benefit humanity to induce them to record their experience for their brethren. You can do this as easily as you can discriminate between the earnest and able journals of your profession and the puffing machines, weekly, bi-monthly, or monthly, which merely vibrate with the speculative thrift of those whose practice is confined to advertisers.

DEMAGOGUES OF MEDICINE.—One more extract in regard to medical demagogues—a very true picture: On no profession does the demagogue, in the English, not the Greek, sense of the word, inflict more damage than on the medical. Yet in no profession, be the truth plainly spoken, will you find a larger proportion of demagogues. I do not refer to unmatriculated or unlicensed or unregistered malpractitioners. They are an odious class apart. I refer to those in regular though not in good standing. You will find them boasting of their cures. You will find them organizing Cheap John dispensaries. You will find them exaggerating ailments in order to magnify recoveries which Nature would have made more quickly had they been out of the way. You will find them declaring that old and disproved remedies are new and infallible cure-alls. You will find them proclaiming to wide-eared laymen their works of wonder. You will find them with a noisy constituency of half-educated men and wholly silly women championing them as if they were a national issue or an evangel of deliverance. * * * This sort of lying is a form of demagogy. It passes for miracle and gospel among the credulous. It limits a man for his audience to the low associations to which you will be tempted and against which I warn you. It is a compound of Munchausen and Mumbo Jumbo. It works on its claque or victims the awe the German explorer worked on the African savages—who worshiped him, gave him provisions, and free and safe passage, because he could wag his ears and had a startling trick of removing his false teeth.

THE RELATIVE ESTIMATION OF DOGS AND DOCTORS.—In Michigan they assess a dog $1 for being a dog. In Tennessee they assess a man 50 cents to become a doctor. It costs half a dollar more to be a dog in Michigan than a doctor in Tennessee. Don't be a dog.—*Battle Creek* (*Mich.*) *Moon.*

THE PROFESSION IN IOWA.—Iowa is the illiterate physician's paradise, no requirement being made for the practice of medicine. If a man or woman has the gift of gab, lots of cheek, especially if he or she can dress well and make a good appearance, they will succeed in making a practice. The less education he has the better. Little or no moral character required, either. This is the status of the medical profession in Iowa.—*Iowa State Med. Journal.*

THE INFALLIBLE CURE.—During the epidemic of typhoid at Plymouth, Pa., a man giving his name as Dr. Van Campen arrived from Brooklyn, and immediately went among the sick, claiming to have a medicine which was an infallible cure. The first patient was a young woman, who died the same night, and, the report getting abroad that the so-called doctor was in reality a New York shoemaker, and that his medicine had killed the patient, the next day he was obliged to leave the town in very short order, or meet the pleasant alternative of being ridden on a rail.

"NO DOCTORS AMONG THE PEERS."—Who was the witty Premier who declined to make an eminent physician a peer because he would not have as an equal in rank any man upon whom he could call for what he was pleased to represent as menial services. The commotion was great in the House of Lords a few afternoons ago, when a noble member fell down in a quite ordinary "fit," and, when the *reductio ad absurdum* of etiquette was reached, the house being hastily adjourned to admit of the entrance of a couple of commoners to minister to the needs of the sick peer, and when the members of that august assembly were so generally scared that only one peer, the Earl Spencer, had the presence of mind to hurry to the Commons for medical assistance. We do not, of course, intend to imply that members of the medical profession ought to be introduced into that assembly for the sake of having a doctor in attendance; but it is amusing to note how dire is the panic when human nature comes to face, or to be seen facing, death without medical assistance. We are not of those who think the medical profession stands in urgent need of such royal countenance as would be involved in bedecking one of its members with a coronet. If art is the better for being patronized, science can stand alone, and will not languish for the smile fashion withholds from its professors. All the same, the custom so long honored by a laborious breach of good manners is very crabbed and wondrously weak.—*Lancet.*

In this country, thanks to the Continental Congress and the soaring spirit of the great American eagle, every educated physician is the peer of the highest in the land.

DEATH FROM SULPHURETTED HYDROGEN GAS.—The very rapid death of a boy, aged fifteen years, from the inhalation of sulphuretted hydrogen gas in its pure state, is reported from Irvine. He was engaged in a chemical laboratory there, and was assisting in carrying out some experiments. In the absence of the person in charge, he approached a boiler which he had been cautioned not to go near, because of the presence of this gas, and immediately he fell down insensible. Though he was at once removed to the pure air, and every effort was made, under medical supervision, to restore animation, he never recovered consciousness, and died in an hour.—*British Medical Journal.*

URIC ACID CALCULUS OF ENORMOUS SIZE.—We desire to place on record some particulars of one of the most remarkable calculi that the records of surgery furnish. It was removed by the high operation (Peterson's modification) on Wednesday morning, by Sir Henry Thompson, from a man aged sixty-two. The stone was of an oval form, of pure uric acid, without any phosphatic incrustation whatever. It weighs 14 oz. avoirdupois (405 grammes), and measures 4½ in. long, 3¼ in. wide, and 2⅛ in. thick. The operation was rapid and performed without difficulty, and the patient's present condition is unusually good and promising.—*Lancet.*

SUCCESSFUL ŒSOPHAGOTOMY FOR REMOVAL OF A HALFPENNY SWALLOWED THREE YEARS PREVIOUSLY.—A boy seven years of age, now in the Queen's Hospital, Birmingham, has a history rarely paralleled in the annals of operative measures for the removal of foreign bodies. The patient was admitted under the care of Dr. Suckling for asthma, for which he had been unavailingly treated. The history was elicited that a halfpenny had been swallowed three years previously, and that dysphagia and dyspnœa followed immediately afterwards. No attempt at extraction was made, and the incident appears to have been forgotten. On admission the child presented all the appearances of chronic starvation, and only the smallest quantity of liquid could be swallowed, the greater quantity of which regurgitated. To solids of any kind the passage was impermeable. Dyspnœa was constant, with paroxysmal cough, copious expectoration, and deficient respiration on the right side. The case having been transferred to Mr. Bennett May, that gentleman found the œsophagus impermeable to anything but the smallest bougies at a point beyond the top of the sternum, but all attempts at detection or removal of the cause were fruitless. On the 25th ult. Mr. May opened the œsophagus low in the neck, and, having passed the finger down it, was able to feel a metallic edge through the wall of the tube. The coin lay in front of the œsophagus, apparently between it and the trachea or the right bronchus. As no point of communication could be discovered, a second incision was made in the œsophagus, and through it the halfpenny was with some difficulty withdrawn. A free escape of air from the wound indicated the existence of a communication between the tubes. The subsequent nutrition of the child has presented considerable difficulty, the fluids swallowed regurgitating through the wound. The patient is now fed three times daily by injecting into the stomach, through an elastic catheter, half an ounce of brandy and an egg beaten up in half a pint of new milk. On the sixteenth day after the operation the child was sitting up in bed, talking cheerfully. He sleeps well, the bowels act twice daily, and the steady improvement in health augurs complete recovery.—*Lancet.*

A RAT-BITE OF THE PENIS.—A few years ago, Mr. ——, a married gentleman, living out of town, was engaged in business in the lower part of this city. One day, upon returning from his lunch, a call of nature led him to seek the seclusion granted by the subterranean apartment of his mercantile building. The privy here in use was of rather primitive construction, being connected with the sewer-pipe without the intervention of a basin, and rats had frequently indicated their presence in the walls of the premises. While Mr. —— was sitting and quietly enjoying that contemplative mood which naturally steals over one in this form of post-prandial siesta, he was suddenly startled and forced to bounce from his seat in a manner most hasty and undignified. Blood was dripping on his pants from a fresh wound of the penis. It required a full moment to take in the situation when, with a suspicion that he had been bitten by a rat and a confused notion of possible results, he rushed for medical aid. When I examined him shortly after the occurrence, I found on the left side of the sheath of the penis a loss of substance three-fourths of an inch in length which had evidently been produced by incisor teeth or some other sharp, cutting instrument. The wound, still bleeding, was cauterized with fused nitrate of silver, and the fears of the patient were gradually allayed. The wound healed quickly, leaving a superficial scar. In a note received a few weeks later, the patient remarked that, although a rat-bite might not be dangerous, the inconvenience of its presence on such a portion of the body could not be overestimated. There is a moral to this story. A week after the bite occurred, the wound looked very much like an ordinary chancroid. Now what would the reader say if a respectable married man were to come to him with an apparent chancroid of the sheath of the penis and state that he had had no illicit intercourse, but had been bitten by a rat? This story teaches that the physician who disbelieves in the vicious nature of the water-closet in connection with venereal disease might, in an exceptional case, be unwarrantably incredulous.—*Dr. George H. Fox in the Journal of Cutaneous and Venereal Diseases.*

YOUNGEST OVARIOTOMY.—Dr. Roemer, of Berlin, reports in the *German Medical Weekly* an ovariotomy in a child twenty months old. At birth a peculiar distention of the abdomen was noticed ; nine months later a tumor, easily movable, fluctuating, but containing resisting portions, was found extending upwards from the pelvis ; at the time it was supposed to be an ovarian cyst. When the child was twenty months old laparotomy was performed, and a tumor larger than a child's head removed from the right ovary. The wound healed by first intention, and the child recovered rapidly without a bad symptom. The tumor was composed of one large and several smaller cysts.—*Weekly Medical Review.*

PERIOSTITIS FOLLOWING TYPHOID FEVER.—Agreeing with Dr. J. D. Hayward that there is room for more facts as to the above condition (which in my experience is rare), I desire to record briefly the following case, recently under observation : Miss A., aged 26, states that she had a very severe attack of typhoid fever about two years ago. There was profuse hæmorrhage, and she was unconscious or delirious for six weeks. She has never been well since, suffering from debility, dyspepsia, constipation, and monthly, or more frequent, attacks of migraine. She was always considered delicate and neurotic. Convalescence has been further retarded by inability to walk, on account of a painful swelling in the lower third of the left tibia ; she believes it has been there more or less since the fever, but certainly it has been much worse since the part was irritated by a boot-lace a year ago. There is another small, tender, and slightly swollen spot under the left ankle, and the first phalanx of one finger on the same side is similarly affected. The pain is made worse by exercise, and sometimes by warmth, but does not, as a rule, prevent sleep at night ; there is no definite pyrexia associated with it ; its very acute and darting character suggests a neuralgic element, but a form of periostitis seems the main cause, and this has been told her by several consultants of eminence in London. It is not only chronic and somewhat different in character from the rheumatic or specific form, but is less amenable to remedies. She had tried many before visiting Brighton, and though a first vesication relieved, subsequent ones did not, neither did iodoform, oleates of mercury, or morphia to any appreciable extent ; iodides internally in various doses caused quickly gastric catarrh and consequent migraine, and treatment had to be several times interrupted. As she is now leaving this place, I advise for the present iodoform and cod-oil internally, and the oleates locally, and a visit to Schlangenbad in the summer ; but I am struck by the obstinacy of the disorder.—EDWARD MACKEY, M.D., M.R.C.P., Brighton. —*British Medical Journal.*

UNREASONABLE EXPECTATION.—"See here," said an angry citizen to a quack doctor, "that 'wonderful discovery' of yours for preserving the scalp is a fraud."

"Why so?"

"Look at that," he went on, removing his hat; "since using it I have lost all my hair."

"Oh, it doesn't pretend to preserve the hair," replied the doctor, "only the scalp. You've got your scalp left. You mustn't expect too much of medical science."

DR. SIMS'S LIFE.—The *Saturday Review* says of Dr. Marion Sims's "Story of My Life:" "The whole book is delightful, though the unprofessional reader will probably eat his dinner with more appetite if he skips some of the professional passages."

AN UNHAPPY LOT.—The male codfish always takes care of the eggs and young. The only peace in life which the male codfish enjoys is when he gets salted down and stored away in a country grocery.—*Burlington* (*Vt.*) *Free Press.*

A FASHIONABLE AMUSEMENT.—An English medical paper says that "the care of babies has become quite a fashionable amusement among mothers," and attributes this growth of maternal solicitude to the innumerable "guides to nursing" published in England of late.—*Ex.* In connection with this statement, the following item from the *Providence Journal* may be of interest: Among the returns of death last month in this city was one of a young child, the cause of which was given by the physician thus : Cause of death—"'How to Feed the Baby' and its Boston author."

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MEDICAL NEWS.

LOUISVILLE MEDICO-CHIRURGICAL SOCIETY.—At a meeting of this society held May 27, the following officers were elected for the ensuing year : President, Dr. Ap. Morgan Vance ; Vice-President, Dr. H. A. Cottell ; Secretary and Treasurer, Dr. R. M. Ferguson.

MEDICAL SCHOOL OF MAINE.—The annual commencement exercises were held in Memorial Hall, Brunswick, where the degree of M.D. was conferred upon 14 graduates.

DEATH FROM CHLOROFORM.—An inquest was held at Guy's Hospital, on Wednesday last, on the body of Thomas Chambers, aged 24, a law-stationer's clerk, lately residing at 3 Old North Street, Red Lion Square, who had died in the hospital under chloroform on the previous day. On that day, the deceased dislocated his humerus while getting off the box of an omnibus. He was taken to the hospital, where four ineffectual attempts were made to reduce the dislocation. Chloroform then was used and the shoulder was easily set, but the patient died under the influence of an anæsthetic. Mrs. Chambers gave evidence that her husband had, on a former occasion, wrenched his shoulder while getting off an omnbus. She did not know that his heart was weak. Mr. Charles Muspratt, the house-surgeon of the hospital, deposed that the deceased took the chloroform badly. A very small quantity was administered. A *post mortem* examination showed slight degeneration of the large vessels of the thorax, but there was no organic disease sufficient to account for death. The death was caused by syncope, the result of an anæsthetic. The effect of chloroform could never be forecast, as it was different on almost every patient. A verdict of "Death from misadventure" was returned. The substitution of some safer anæsthetic than chloroform for adults has still to be constantly urged upon those responsible for the production of anæsthesia in hospitals and elsewhere. Ether, or even the "A. C. E." mixture, notoriously fulfils these conditions of increased safety, and either of these two agents is usually to be preferred to chloroform.—*British Medical Journal*, May 30.

INOCULATION FOR CHOLERA.—The abstract of the report of the committee on Dr. Ferran's alleged discovery of a method of inoculating for cholera cannot but strenghten the feeling of distrust with which the announcement has been generally received by pathologists in this country. Its perusal leaves the impression that Dr. Ferran has not been working with pure fluids; indeed, this is specifically stated to have been the case in the experiments made by the Commission. It is stated that the guinea-pigs which died presented no indication of septicæmia; but much stronger evidence on this head will be required. The blood, moreover, is stated to have contained micrococci, as well as spirilla and comma-bacilli, which is certainly not the case in Asiatic cholera. In man, the symptoms were distinctly of the septicæmic type, and resembled those noted by M. Socin of Bale in some recent experiments with an organism which occurs in osteomyelitis and in phlegmonous inflammations. The fact that a second inoculation of Dr. Ferran's cultivation produced no ill results proves nothing as to the nature of the organism. With regard to the protection of human beings against cholera, there are at present no data for forming a correct opinion. Dr. Ferran, it is true, reports that at Alcira, among 5,432 persons inoculated by him, only 7 cases of cholera have occurred, with no deaths; while there have been 64 cases, with 34 deaths, among the remainder of the inhabitants (about 10,500); but this fact alone does not prove that any true protection had been produced. Indeed, a second report is less favorable; it states that 7,128 persons have been inoculated once, but seven were attacked by cholera, and that 2 died; and that 3,011 have been inoculated twice, of whom none have died; but how many were attacked is not stated. Meanwhile, among the population of Alcira not inoculated 73 cases occurred, with 39 deaths.—*British Medical Journal*, May 30.

The *furore* excited by Dr. Ferran's alleged protective inoculation of cholera continues unabated, or rather with increasing ardor. Last week it was reported that he had operated upon 8,000 persons in Valencia alone, including two Madrid doctors—Moreno and Tolosa—who thereby became converts to the doctrine. It is also stated that four hours after their inoculation they experienced the cramps, diarrhœa, fever, and delirium of cholera, and that after sixteen hours "they were all right again." Further proof of the efficacy of the measure is cited from the Alcira Hospital, where all the inmates were inoculated, with the exception of two, who declined to submit to the operation. Cholera attacked these two recalcitrants, and they succumbed to the disease. In the face of these and other facts, Dr. Cameron did well to ask the Secretary to the local Government Board whether he would consider the propriety of nominating a small commission to visit Alcira and report. He stated that Dr. Ferran was desirous that an English Commission should be appointed to verify his results. Mr. Russel, in his reply, promised to bring the proposal under the notice of the Secretary of State for India; but we venture to think that it would be better to send the Commission from England, as the question is one which directly involves the subject of choleraic micro-organisms that have been so much studied by a few of our scientists. It may be remembered that Dr. Ferran adheres to the bacillary doctrine of the etiology of cholera, but that he declares that Koch's comma bacillus is but one stage in the development of an organism whose germs he avers to have discovered. Although we are unwilling to condemn on *a priori* grounds a discovery of such moment as this would be, if verified, we are yet very reluctant to admit that such vaccination can protect from true cholera, or to see in the results as reported anything more than coincidences. It is significant that at the recent conference at Berlin not even Dr. Koch himself as much as hinted at the possibility of a protective vaccination amongst the measures of meeting the disease; and Ferran's work was only cursorily mentioned by one speaker, Professor Virchow, who believed that the various forms described by Ferran were the results of disintegration of the bacilli, and not stages in their evolution. The matter has, however, reached a stage in which it ought not to be disregarded without a full and sufficient investigation; and although we doubt very much the possibility of arriving at any satisfactory conclusion except in time of epidemic, it is very desirable that Dr. Ferran's labors should be submitted to such an examination by competent and trustworthy authorities.—*Lancet*, May 30.

DEATH OF DR. WM. E. ROGERS.—At his residence in Memphis, Tenn., on May 21, Dr. Wm. E. Rogers, in the fifty-ninth year of his age. Dr. Rogers was a graduate of Jefferson Medical College, and was not only a prominent physician, but also a surgeon of acknowledged skill and eminence. He was the founder of the "Memphis Hospital Medical College," of which he was the Professor of Surgery and Dean of the Faculty as the time of his death.

THE NEW PRESIDENT OF THE ILLINOIS STATE MEDICAL SOCIETY.—The readers of the JOURNAL will cordially endorse the following sentiments of the *Peoria Medical Monthly:* We heartily congratulate Dr. W. A. Byrd, of Quincy, on his election to the presidency of the Illinois Medical Society. The act is a public recognition of his eminent surgical abilities, and we predict that he will make one of the best presiding officers the society has ever had.

A NEW JERSEY ILLEGAL PRACTITIONER.—TRENTON June 5.—The trial of Dr. Charles C. Brown for practising medicine illegally in this city resulted to-day in a verdict of guilty, the jury having remained out all night. The doctor claimed that he was graduated from the Philadelphia College of Medicine and Surgery in 1859. He has been practising here since 1880. His patients were numerous and comprised rich people as well as poor. The County Medical Society procured his indictment, and during the trial it was shown that his diploma, being written and full of faulty Latin, was different from all other diplomas issued by the college in question. Dr. Harlowe, who was a member of the Faculty in 1859, testified that his name on the diploma was forged, and to the best of his belief all the other Professors' names upon it were forgeries. Other physicians who were graduated in 1859, testified that Brown was not a student at the college at all, Brown's defense was that he was ill upon the day of Commencement exercises, and that Dr. Rand, the Dean of Faculty, gave him the diploma several days afterward, declaring that there were no more printed ones, and that the written one would answer just as well. The college being out of existence now, its records scattered and destroyed, and Dr. Rand dead, the defendant could not prove his assertions.

LONG ISLAND COLLEGE HOSPITAL.—The Twenty-sixth Annual Commencement of this school, was held at the Academy of Music, Brooklyn, June 3, when the degree of M.D. was conferred on forty-seven graduates. The valedictorian was Frederick Whiting, and the address to the class was delivered by St. Clair McKelway, Esq.

DEATHS FROM POISONING BY WILD HONEY.—At Branchville, S. C., on June 5, a large number of persons, three of whom died, were poisoned by eating wild honey. Shortly after taking it they all complained of blindness and dizziness, and the honey was found on examination to be strongly impregnated with gelsemium. But for prompt and energetical medical assistance, it is said there would have been twenty deaths, instead of three. A few days before, there occurred two deaths in the neighborhood which could not be satisfactorily accounted for, but which are now believed to have been undoubtedly due to the same cause.

NEW YORK ACADEMY OF MEDICINE.—"Contagious Ophthalmia in some of the Orphan Asylums and Residential Schools of New York City," was the subject of an important paper read before the Academy, June 4., by Dr. Richard H. Derby, in which he showed by the results of a personal examination, that 19.19 per cent. of all the children in twenty-four of the institutions, numbering over 7,000 altogether, were affected with contagious blenorrhœal conjunctivitis.

TWICE IN FAVOR OF DR. SIMS.—The friends of the late Dr. Sims and his family will be glad to read the following: *A Verdict for over* $5,000 *against the United States Trust Company.*—An unindorsed check for $5,000, drawn by the late Dr. J. Marion Sims on the People's Bank in favor of the United States Trust Company, was deposited with the latter corporation by Gilbert L. Crowell in the latter part of 1882. Crowell deposited it to his own account as Trustee for Dr. Sims, who was then in Europe. Within a month he drew its amount from the Trust Company. It was subsequently discovered that Crowell was a defaulter to a large amount, having made use of money belonging to a number of trust estates. A friend of Dr. Sims induced Crowell to give him a note, made by a mining company, as security for the doctor. On his return to this city Dr. Sims repudiated this note and made a claim against the trust company on the ground that, as it had no legal notice that Crowell held a power of attorney from him, it had no right to allow him to draw against the check he deposited. After Dr. Sim's death, his son, as his executor, sued the United States Trust Company. The case was tried last December before Judge Andrews and a jury, and a verdict was directed for the plaintiff. The General Term sent the case back for a retrial on the ground that it should have been allowed to go to the jury. The second trial ended before Judge Lawrence and a jury yesterday. The jury gave a verdict for the plaintiff for the full sum claimed, $5,420. *N. Y. Times*, June 3.

The Cholera in Spain.—A dispatch from Madrid of the date of June 8, states that despite the repeated denials of the authorities, it is now known that there have been eleven cases of Asiatic cholera, with two deaths, in that city. June 14, there were seven deaths from the disease in Madrid. In the whole of Spain there were 1,197 new cases, and 588 deaths on July 13. The official report shows that up to that date there had been in the country 30,000 cases of cholera, with a total mortality of 13,000; or, about 4 in 9, against 3 in 7 in Italy, and 2 in 7 in France, last year. Dr. Ferren is said to inoculate 600 persons daily.

Reforms Needed.—The Richmond County (N. Y.) Medical Association recently held a special meeting to discuss the present disgraceful condition of the cells at the County Almshouse on Staten Island where insane paupers are confined, and a committee was appointed to further investigate the abuses and endeavor to secure prompt abatement of the same.

Dr. Jensen's Suit.—In the case of Dr. Carl L. Jensen against the firm of Keasbey & Mattison, of Philadelphia, the United States Circuit Court has rendered a decision protecting the former in his rights, and putting a stop to the manufacture or sale of his product by the firm named.

Changes in the Faculty of the Medical Department of the Tulane University.—At the close of the last session of the Medical Department Prof. Samuel Logan resigned the chair of Anatomy which he has filled so well and long, and Dr. Edmond Souchon, of this city, was elected to succeed him. Dr. Souchon graduated in Medicine from the University of Louisiana (now Tulane University) in 1867, and held the position of Demonstrator of Anatomy in the same institution from 1871 until 1876. The department also lost by resignation the valuable services of Dr. A. B. Miles the Demonstrator of Anatomy, the vacancy being filled by the election of our former colleague Dr. R. Matas, with our colleague Dr. A. McShane as assistant. Both of these gentlemen are Alumni of the school which they are now called to serve. Prof. Jno. B. Elliott, formerly the Professor of Materia Medica and Therapeutics, has been transferred to the chair of Practice rendered vacant last November by the death of our lamented friend Prof. S. M. Bemiss, and Dr. Jno. F. Y. Paine, elected to the chair left vacant by Prof. Elliott. Dr. Paine is a native of Alabama; received the degree of M.D. from the University of Louisiana in 1861, and has been for some years a resident of Galveston, Texas, where he has, we understand, a large and lucrative practice. The Deanship rendered vacant by the resignation, from that position, of Prof. T. G. Richardson, has passed to Prof. Standford E. Chaille.—*New Orleans Med. and Surg. Journal.*

The Weekly Medical Review.—Dr. Robert Tilley, the Chicago editor, has resigned, and Dr. Robert Luedeking, of St. Louis, assumes the sole management of this journal.

ALABAMA STATE MEDICAL SOCIETY.—At the recent meeting of this society Dr. F. M. Peterson was elected President, Drs. Starr and R. M. Fleming, Vice-Presidents, Drs. Riggs, Ketchum and Dement, members of the State Board of Health, and Dr. Bragg, orator. The next meeting of the Society will be held at Anniston.

PROFESSOR SENATOR. Dr. Senator, Director of the Augusta Hospital, and of a department of the Royal Charité Hospital for internal diseases of women, has been provisionally appointed, for the ensuing summer, Director of the first University Clinic, Berlin, in the place of the late Professor von Frerichs.

THE BRITISH GYNÆCOLOGICAL JOURNAL.—During the latter part of April the first number of this new journal, edited by Dr. Fancourt Barnes, appeared in London; containing reports of the foundation and inaugural meetings of the British Gynæcological Society, the inaugural address of the President, Dr. Meadows, and papers by Drs. Bantock, Burton, Aveling, and Robert Bell, and Messrs. Reeves and Lawson Tait.

GENERAL PREVALENCE OF SMALL-POX.—Small-pox is still very bad in Montreal; and not long since there were said to be fifteen hundred cases in London, while the disease was also prevailing in the other cities of England, and in the German seaports. During one week in the early part of June there came into the harbor of New York no less than three Transatlantic steamers with cases of small-pox on board, and among the passengers of one of these a number of new cases developed after the vessel arrival at quarantine. June 8, the New York State Board of Health issued the following notice to local boards of health and health officers: "Small-pox is prevalent at several places whence emigrants are continually arriving, and you are therefore urged to take promptly all possible measures to secure the effective vaccination of all unprotected persons within your jurisdiction, especially as regards children in public schools, and persons employed about railway stations, boat buildings, or other centres of passenger or freight traffic, and to guard against the introduction of infection by routes from Canada or westward-bound emigrant lines."

A COURSE IN SANITARY ENGINEERING AT COLUMBIA COLLEGE.—The Trustees of Columbia College, New York, have decided to add a course of instruction in sanitary engineering at the School of Mines, and it will be given by Dr. J. H. Billings, U. S. A., who will still continue to lecture on hygiene also. Special microscopical instruction will be under the charge of an assistant, and students who take the course for four years, and pass satisfactory examinations, will, on the recommendation of the Faculty, receive the degree of Sanitary Engineer.

A TEACHING UNIVERSITY FOR LONDON.—Another meeting of the Conference between the Sub-committee for Medicine of the Executive Committee of the Association for Promoting a Teaching University for London, and representatives of the medical schools in London, was held on Monday last. A good deal of discussion took place, and many and valuable opinions were elicited. One question upon which much difference of opinion was discovered was the mode in which the Board of Studies was to be constituted, some thinking that the medical schools should elect one-half of the number of members, and the faculty the other half; others thought that the faculty should elect the whole number. With regard to the governing body, also, a difference of the same order arose, whether the members should be chosen by the Boards of Studies or by the Faculties. A general consensus of opinion was found as to the great importance of establishing such Boards of Studies, and, with due liberality and flexibility of guidance, there is great reason to hope for a practical and useful issue of these conferences.—*Brit. Med. Journal*, May 23.

CITY OF LONDON TRUSS SOCIETY.—The seventy-eighth annual festival in aid of this Society was held recently, the Lord Mayor presiding. Since the charity was established in 1807, more than 406,000 patients of all ages and both sexes have been relieved, the number in the first year being 227, and last year 9,248. In 1884 the regular annual subscriptions amounted to £1,843, new and additional subscriptions to £144, life subscriptions and donations to £902, legacies to £1,868, and extra by governors for letters £103. During the evening subscriptions amounting to £520 were announced.—*Lancet.*

ANOTHER LUNATIC ASYLUM BURNED.—On the night of June 7, the female department of the Eastern Lunatic Asylum at Williamsburgh, Va., was destroyed by fire, but the patients, 200 in number, were all rescued alive, a fact which presents a pleasing contrast to the result in other recent asylum fires, and which speaks well for the prompt and efficient action of the officers and attendants in the emergency. There were 300 patients in the male department, and these were also all gotten out without loss of life. The only casualty in connection with the fire was the drowning of one of the female patients, who wandered off in the confusion and fell into a neighboring creek, her body being found in the water the next morning.

THE SANITARY CONDITION OF NEW ORLEANS.—At the Board of Health meeting, June 9, Dr. W. H. Watkins, Chief Sanitary Inspector, reported as follows: "Notwithstanding the absence of epidemic infectious disease the mortality during the month has been very high. The large death rate has been caused by a class of diseases dependent in a great measure on humidity and bad sanitary conditions. Reports in regard to the condition of streets, street gutters, and canals have become so trite that it is with reluctance that the subject is brought up again. During the recent hot weather their condition has daily become worse. The stagnant pools have fermented and the air become laden with emanations disagreeable to the senses and of unquestionable influence on health. Mississippi River water, which should flow through streets parallel to the river, is retarded by accumulations under bridges or obstructed by want of alignment of street gutters. Garbage is not completely removed, the number of carts now in the employ of the city being too few to attend to the duty. This unsavory condition of affairs is said to be due to the fact that the department having charge of the public streets is controlled by ignorant and unscrupulous politicians.

THE INTERNATIONAL MEDICAL CONGRESS OF 1887.—The General Committee on the Organization of the International Medical Congress of 1887, assembled in the Palmer House, Chicago, on the 24th of June, 1885, in accordance with previous notice. Twenty-five of the thirty-eight new members added to the Committee by the Association in New Orleans were present, while the original Committee appointed at the meeting in Washington was represented by Drs. J. S. Billings and I. Minis Hayes. Dr. Austin Flint not being able to attend, sent his resignation as member of the Committee, which was accepted, and Dr. J. W. S. Gouley, of New York, was elected to fill the vacancy, making the whole number of members present twenty-eight. As Dr. Flint, the former President of the Committee, had ceased to be a member, a new election of officers for the permanent organization of the Committee became necessary. A few ballotings resulted in the election of Dr. R. Beverly Cole, of San Francisco, as Chairman; Dr. J. S. Lynch, of Baltimore, as Vice-chairman, and Dr. John V. Shoemaker, of Philadelphia, as Secretary. Drs. J. S. Billings and A. Y. P. Garnett, of Washington, were put in nomination for the latter office, but both declined to serve. The Committee having been thus organized simply as a *Committee of Arrangements* for the coming International Congress, its officers having no reference to, or connection with, any offices in the Congress itself, proceeded to the important work for which it had convened. A motion made by X. C. Scott, of Ohio, directing the Chairman of the Committee to appoint a Sub-committee of nine members, to consider and report on such revision and amendments as might be deemed necessary, of the previously adopted rules and appointments for the proposed Congress, was adopted, and the Chairman appointed the following members such Committee: X. C. Scott, of Ohio; J. S. Billings, and J. B. Hamilton, of D. C.; J. W. S. Gouley, of New York; W. A. Wathen, of Kentucky; John V. Shoemaker, of Penn.; E. P. Upham, of Vermont; J. W. McLaughlin, of Texas, and D. A. Linthicum, of Arkansas. The General Committee adjourned until 7:30 P. M., and subsequently to 9 A. M. of the next day for this Sub-committee to complete a report.

On the assembling of the General Committee on the morning of the 25th, the Sub-committee presented a report, which, after free discussion and some alterations, was adopted. It is sufficient for our present purpose to state that there was no desire manifested to make any revolutionary or radical changes in the general plan of organization previously adopted. On the contrary, nearly all the general rules pertaining to the membership and the working of the Congress, both in the general sessions and in the sections, were left unchanged. Those relating to the organization of the General Committee itself were very properly so changed as to make them applicable to a Committee of Arrangements only, and not to a committee whose officers were to be nominated for election to the chief offices of the Congress. The nineteen sections previously provided for were reduced to sixteen, by adding obstetrics to the section of gynæcology, nervous and mental diseases to the section of medicine, and oral and dental surgery to the section of surgery. The chairmen of only four of the sections were changed, namely: Section 1.—Medical Education, Legislation, and Registration, at the head of which was placed Dr. Stanford E. Chaillé, of New Orleans, instead of Dr. Henry P. Bowditch, of Boston. Section 9.—Opthalmology, to which was assigned Dr. E. Williams, of Cincinnati, in the place of Dr. Henry D. Noyes, of New York. Section 13.—Laryngology, of which Dr. J. W. Mackenzie, of Baltimore, was made Chairman, in place of Dr. George M. Lefferts, of New York; and Section 18.—Diseases of Children, of which Dr. J. Lewis Smith, of New York, was made Chairman, instead of Dr. A. Jacobi of the same city. The chairmen of the remaining twelve sections were left unchanged, viz.: for Anatomy, Dr. Joseph Leidy, of Philadelphia; Physiology, Dr. John C. Dalton, of New York; Medicine, Dr.

J. M. Da Costa, of Philadelphia; Surgery, Dr. D. W. Yandell, of Louisville; Obstetrics and Gynæcology, Dr. Robert Battey, of Rome, Ga.; Otology, Dr. Clarence J. Blake, of Boston; Dermatology and Syphilis, Dr. William A. Hardaway, of St. Louis; Public and International Hygiene, Dr. H. A. Johnson, of Chicago; Collective Investigation, Nomenclature, and Vital Statistics, Dr. N. S. Davis, of Chicago; Military and Naval Surgery and Medicine, Dr. D. L. Huntington, of U. S. Army; Practical and Experimental Therapeutics, Dr. H. C. Wood, of Philadelphia.

By the foregoing changes, it will appear that instead of Five Chairmen of Sections being centered in New York and four in Philadelphia, making within a fraction of one-half of the whole number in those two cities, the number in each of these cities is reduced to three, while the remaining ten are distributed as follows: Two in Chicago, Ill.; one in Cincinnati, Ohio; one in St. Louis, Mo.; one in Louisville, Kentucky; one in New Orleans, La.; one in Rome, Ga.; one in Baltimore, Md.; one in Boston, Mass.; and one in the Medical Corps of the U. S. Army.—*Journal of the American Medical Association.*

THE NEW YORK COLLEGE OF MEDICINE AND SURGERY.—Governor Hill has shown his wisdom in vetoing a bill recently passed by the Legislature granting articles of incorporation to the notorious Gunn eclectic medical school.

THE SANITARY CONFERENCE at Rome adjourned June 12 until November.

EDITORIALS.

CONTAMINATED DRINKING WATER AND EPIDEMICS OF DIARRHŒA.—The *BritishMedicalJournal* of April 25th, 1885, makes the very remarkable statement that if a serious outbreak of diarrhœa which had recently occurred at Hull should eventually prove (as it did, in fact, according to a subsequent announcement in the *Journal*) to have been related to the pollution of the water supply, the epidemic would be of interest as the first of its kind that had been recognized in England.

In February, 1876, a violent outbreak of diarrhœa occurred among the inmates of the Manchester Warehousemen and Clerks' Orphan School at Cheadle Hume. Of a total number of 172 children, 138 were attacked with the disorder, one of whom died; while 9 out of 26 officers employed in the institution suffered more or less severely. The *British Medical Journal* of March 4th, 1876, in commenting on the cause of this outbreak says: "The water, according to Dr. Siebold's analysis, contains a not inconsiderable quantity of organic matter. It may be noted that one sample of water from the farm supplying the milk for the use of the institution is stated to be 'very bad water indeed, and quite unfit for domestic use.' Taken in connection *with other similar epidemics* elsewhere, this seems to be the only clue to the outbreak."

Parke's Manual of Practical Hygiene, in speaking of water pollution as a cause of disease, states that "many conditions produce diarrhœa. Suspended animal, and especially fæcal, matters have produced diarrhœa in many cases;

such water always contains dissolved organic matter, to which the effect may be owing. The case of Croydon in 1854 (Carpenter) is one of the most striking on record." The reference here is doubtless to the epidemic which commenced at Croydon in August, 1852, which seems to have been in part one of typhoid fever, though a large number of the cases were of intestinal disturbance without any febrile element. In his report on the outbreak Dr. Arnott says that in a population of about 16,000, there were about 1,800 cases of fever, with a mortality of about 60, and very numerous cases of diarrhœa and dysentery, with a mortality of about 10.

A little further on the same writer says: "Dr. Gibb (*British Medical Journal*, 1870) had seven cases in one house in which violent gastro-intestinal derangement marked by vomiting, diarrhœa, colic, and fever were produced by water contaminated by sewage which had passed into the cistern." And, again, "Suspended vegetable substances in England, as well as in America, have in several instances caused diarrhœa from drinking pond, surface, and ditch water, which ceased when proper wells were sunk."

Almost all writers on sanitary subjects allude to the causation of diarrhœa by contaminated drinking water, as, for instance, Goodeve in his chapter on impure water in Reynold's System of Medicine: "Water contaminated with decomposing animal matters, or with sewage or sewage gases, is pretty certain to cause diarrhœa, either quickly or slowly, according to the degree of vitiation of the water or the mode in which it is used."

Dr. Alfred Carpenter says, in his Lectures on Preventive Medicine: "Last, but not least, water rendered impure by sewage, or indeed, by any organic matter, is to be shunned. The evidence upon this point has accumulated to such a degree as to render it quite incontrovertible. Diarrhœa, dysentery, intermittent fever, dyspepsia, may be entirely caused by impurities in the water." Since, therefore, this etiological relation between impure water and diarrhœa is so universally acknowledged, it would certainly be extraordinary if no outbreaks of the affection from this cause had been noted in England, where pollutions of the water-supply in various localities all over the country have for many years been reported more or less constantly in the newspapers as well as the medical journals; and it can scarcely be doubted that if a careful investigation of the matter were made, numerous instances as striking as those referred to above could be educed.

In this country, at all events, as well as in many others, such instances are sufficiently common. To give first a few of these which have been noted abroad: "In cases in which the water is largely contaminated with suspended sewage," Dr. Parkes says, "it is important to note that the symptoms are often markedly choleraic, viz., purging, vomiting, cramps, and some loss of heat. Dr. Oldskop, of Astrachan, noticed marked choleraic symptoms to be produced by the waters of the Volga when impregnated with sewage. * * * * In the prison at Halle an attack of diarrhœa was traced by Dolbruch to the contamination of water with putrid substances. * * * * Suspended animal and vegetable substances washed off the surface of the ground (and, he might have added, out of cess-pools) by heavy rains into shallow wells often produces diarrhœa, as at Prague, in 1860, when an epidemic of irritative diarrhœa was produced by heavy floods washing impurities into the wells. * * * * Surgeon-Major Gore has recorded a violent outbreak of diarrhœa at Bulama, on the west coast of Africa, produced by the water of a well which was milky from suspended matters, consisting of the *debris* of plants, algæ and monads. When filtered the water was quite harmless. * * * * The impure water of the Canal d' Ourcy, in the northeastern quarter of Paris, has produced diarrhœa, dysentery, and cholera again and again." The hill diarrhœa of the sanitary stations in India has been traced to defilement by the natives of the ground near the springs, wells, brooks, and streams. This was even the case at beautiful Simla, where the family of the Governor-General himself were attacked. The Secunderabad barracks, it is said, have a diarrhœal and dysenteric notoriety, being on low grounds, and getting drainage from a grave-yard, while the hill-sides and ravines are loaded with the ordure deposited by the natives.

Mr. Ernest Hart writes from Cairo, Egypt: (*British Medical Journal, April* 25, 1885.) "No wonder that, with a soil reeking with filth, with all natural dry-earth conservancy abolished, with drinking-water of which the sources are becoming annually more polluted, enteric fever, in true and bastard forms, dysentery, and diarrhœa, are the causes of an immense mortality. Of the actual figures it is, of course, very difficult to get any really accurate estimate in a country where the registers are not made in such a manner as to command complete confidence. Dr. Sandwith gives the following figures: Taking the death rate of Cairo and Alexandria, where alone it can be considered fairly accurate, during the first five months of 1883 and 1884, we find that, out of a total of 19,439 deaths, 5,466, or 28.1 per cent., were caused by bowel-complaints. Out of this number, Cairo is responsible for 33.9 per cent., and Alexandria for only 17.5 per cent., or about half the average at the capital. The following table also shows that in Cairo there was no great difference between the number of intestinal cases in the year preceding and the year following the cholera epidemic, whereas in Alexandria the number fell from 860 in 1883 to 313 in 1884."

In this country numerous instances of outbreaks of diarrhœa resulting from impure drinking water occurred during the late war. Woodward, in his Treatise on Camp Diseases, says, p. 211: "Sometimes the drinking water is free from injurious mineral substances, but charged with organic impurities, especially in the shape of decomposing vegetable matter. This is particularly the case with the water of swampy regions, and frequently gives rise to disorder of the bowels. During the siege of Yorktown, and also on the banks of the Chicahominy, much of the drinking water used by the troops was obtained from shallow wells, only two to four feet deep. Too often the surface water of pools was used as a beverage. Numerous cases of diarrhœa resulted from these sources. The same has happened in many other situations, especially at Pittsburgh Landing, and was attributed by eye-witnesses to drinking the water of the Tennessee River, which is there charged with decomposing animal matter, derived from the muscle shoals higher up."

In one of the *American Health Primer* series entitled "Our Homes," by Dr. Henry Hartshorne, formerly Professor of Hygiene in the University of Pennsylvania, the author says that at Ocean Grove, New Jersey, during the first two or three years of its settlement, driven wells for drinking water and other wells for house-waste were dug side by side, on small lots, not many feet apart. The sandy soil permitted an easy mingling of waste and water-supply in the common ground-water of the place; and, as a consequence, there was a constant prevalence of diarrhœa in the community until the earth-wells were made water-tight as far as possible, and their frequent emptying rigidly enforced.

In the first annual report of the New York State Board of Health there is given by the editor of this journal an account of a limited house epidemic of dysentery which came under his observation at Southampton, Long Island, in which the outbreak was distinctly traceable, as far as it was possible to judge, to contamination of the wells in the manner described by Dr. Hartshorne; the water from these wells showing, according to the analysis of Prof. Elwyn Waller, a large amount of organic impurities. In the report of the dysenteric affection special attention was called to the fact that a large number of severe and obstinate cases of diarrhœa prevailed at the same time. In the seventh annual report of the Massachusetts Board of Health, p. 549, will be found a reference to an epidemic of diarrhœa and cholera morbus, which prevailed among the militia regiments in camp for summer drill at South Framingham. The surgeon in charge reported that the probable cause of the trouble was the poor quality of the drinking water. The wells were about twenty in number, fifteen of them being scattered over the camp near where the cook-houses were generally erected, and also near the sinks, and there was no system of drainage to carry off the water and slops from the vicinity of the wells. The sinks were dug from two to three feet deep in different places for each regiment, and without much regard to the proximity of the wells. It was thought that the epidemic would have become a very serious one if the troops had remained in camp longer than a few days.

But the space is not at command to multiply instances, and only a single additional one can be cited. This, however, on account of the absolute clearness of the proof of the dependence of the outbreak on impure drinking water, as well as because it served to call attention to a source of danger in this connection which up to that time, it is believed, had been but little recognized, is one of the most notable that has ever been recorded. It is to be found in the same report of the Massachusetts Board of Health as the previous case. In the summer of 1875 there occurred among the guests of one of the large hotels at Rye Beach, New Hampshire, an outbreak of disease characterized by nausea, vomiting, diarrhœa, and severe abdominal pain, which was traced to the contamination of drinking water by means of ice. It seems that the ice was taken from a certain pond in the vicinity; and that this was actually the cause of the disease is distinctly shown by the following facts: (1) The affection was confined exclusively to the inmates of this particular hotel; (2) The ice from the pond in question was not used at any of the other houses; (3) As soon as the use of ice from this pond was discontinued the epidemic began to decline, no fresh cases whatever being developed after this date; (4) The analysis of the water of the pond by Prof. W. R. Nicholls indicated the presence of decaying organic matter which was fully capable of producing the diarrhœal trouble.

As long as the present sources of possible contamination of drinking water remain outbreaks of diarrhœal disease are liable to result from this agency. Where diarrhœa prevails over a limited district, in a town or village, among a few houses, or in a single house, the water will frequently be found to be the cause. Not to speak of summer and tropical dysentery, in which this prime etiological factor has long been so universally recognized, much winter and vernal diarrhœa is caused by the melting of snow contaminated by refuse from pig-pens, barn and stable yards, and still more from the soakage from shallow privy pits, all of which in times of thaw are swept into neighbouring wells and streams. Dr. John C. Peters recently related to a friend that while once riding along, in the late dry autumn, with a country practitioner, the latter pointed out the hard sun-baked condition of the roadsides as an indication that diarrhœa and dysentery would soon prevail. When everything was so dry, he said, the wells were low, and consequently the scanty drinking water would almost inevitably be dangerously affected by contaminations in cases where wells were exposed to leakage from neighbouring outdoor privies. Dr. Peters also stated that he knew several persons who always had diarrhœa from drinking Croton water after heavy rains, when, probably, more animal water is washed from the fields, yards, and out-barns near the banks.

River water used near the openings of sewers has often caused diarrhœa and dysentery. These used to prevail constantly in Calcutta before pure water was introduced into that city. In regard to the condition of the population of India in general, the great mass of the Hindoos use no tea, coffee, or other hot drinks, and have no wine or spirits. As a rule, they are too poor to cook their rice thoroughly, as they all use for drinking and cooking purposes filthy tank-water, in which they also wash themselves and their clothes, as well as allow their animals to wade or wallow. They generally make use of the open ground for privy places, and consequently the surface soil is constantly contaminated with the excreta of over two hundred millions of people. This, according to Dr. Peters, who has made a special study of the subject, is the whole mystery of diarrhœa, dysentery, and cholera in India. The Chinese and Japanese drink larger quantities of hot tea, and cholera has never become endemic in their countries. The Turks, Arabs, and Mahommedans generally use much hot coffee, and so likewise among them cholera has never become domiciled.

The medical profession can do much good at the present time by impressing on the minds of the community at large the extreme simplicity of the means for rendering even badly contaminated drinking water entirely innocuous. It is fortunate that merely boiling the impure water will prevent all ill effects from its use. When the recent epidemics at Plymouth, Pa., and in West Virginia first commenced, if none but boiled water had been taken by the people generally, the outbreaks would soon have come to an end. Of course, as a rule, it is best to filter the water first and boil it afterwards.

But it is better to prevent the contamination in the first instance, and as sanitary knowledge becomes more widely diffused among the people, the accomplishment of this desirable object will be more and more frequently attained. It is probably safe to assume that if all outdoor privies were abolished in cities and towns with sewers and a good water-supply, the diarrhœal rate would be greatly lessened; while if every privy in the country were treated with large quantities of fresh earth, a little more being put over every daily deposit, dysentery and typhoid fever would be almost unknown and great outbreaks of cholera become almost impossible.

CONTAGIOUS OPHTHALMIA.—The extended report on contagious opthalmia in the orphan asylums and residential schools of New York City presented by Dr. Richard H. Derby at a recent meeting of the Academy of Medicine is of more than common interest to both laymen and members of the medical profession. The statistics were collected by personal observation, with great care, and are taken from 24 institutions, containing 7,440 inmates. Of this large number of children, no less than 1,428, or 19.19 per cent., had sore eyes. In two asylums nearly or quite one half of the inmates suffered from this grave disease; and it is a noteworthy fact that in certain of these institutions many cases were found in the early stage of the disease among children who were supposed by their attendants to have perfectly strong eyes.

As to the very serious character of this affection, blenorrhoic conjunctivitis with its various complications and sequelæ, little need be said; the fact being a universally acknowledged one. In his "Notes on Contagious Diseases of the Eyes in Schools and Asylums," published in the second annual report of the New York State Board of Health (1882), Dr. C. R. Agnew says of it: "The bad effects of this preventable malady are not confined to the limited school life, but run through the entire career of the sufferer, or make him a vehicle of contagion to others. I have often seen an entire family inoculated by the arrival in their midst of a case from a public institution. I have seen it carried into a community and there spread by a child discharged from such a school. It will be seen that we have not only the acute malady to deal with, but the baleful after-effects in blindness, chronic eye-trouble, and the spread of catarrheal eye disease in tenements and other communities." Dr. Derby in his paper before the Academy of Medicine emphasizes the fact that more eyes are lost among the inmates of schools and asylums annually than there are lives cut short by scarlet fever and other contagious diseases in the same institution.

Among the numerous factors productive of the unfortunate, not to say criminal, condition of affairs in these institutions, as revealed by Dr. Derby's report, may be mentioned the little care that is used in admitting children whose eyes are already diseased, many of them being sent to them by direct commitments of the courts without any examination whatever as to their state of health, the overcrowding of the asylums, improper or insufficient food, and the absence of anything like quarantine for these cases of sore eyes. In regard to the matter of overcrowding and bad diet, Dr. Agnew expresses the opinion that "schools and reformatories should be licensed by the State under a general law like that, for instance, determining the capacity of emigrant ships, so that overcrowding and bad food would be impossible without a misdemeanor on the part of their managers. The license should state in terms what cubic space must be secured for each inmate and what the dietary must be. Then no school or reformatory would have more inmates than the building should contain or its resources properly maintain, and societies for inquiry and advice would have some definite duties to perform with reference to them."

Dr. Derby well says that under no circumstances should children be received in an asylum until a competent authority has pronounced the eyes of the newcomers free from any trouble of a contagious nature. It is of the utmost importance also that a stated report from each asylum, giving the number of cases of contagious ophthalmia among its inmates should be made at frequent intervals to the Board of Health; and it will be a great step in advance when the authorities have been made to recognize that this is a *contagious* disease, and calls for the same precautions in the matter of quarantine as scarlet fever, diphtheria and measles.

At the meeting of the Academy of Medicine, at which Dr. Derby presented his report, the following resolutions were unanimously adopted:

First.—It is necessary and expedient that steps be taken to prevent the occurrence of communicable eye disease in the schools and the asylums of New York and vicinity.

Second.—That the New York Academy of Medicine take the matter of the paper of the evening into its immediate consideration, and that the competent co-operation of the writer of the paper, the society for the Prevention of Cruelty to Children, the State Board of Charities, the State Charities Aid Association, and others, be invoked for the purpose of lessening the prevalence of communicable eye disease.

With such a concerted movement for the repression of this crying evil, much good ought to be accomplished; and if the various organizations referred to will evince sufficient interest and energy in the matter—the failure to elicit which will certainly not be due to any lack of zeal on the part of the author of the paper—it may perhaps not be too much to hope that contagious ophthalmia may be practically stamped out from our institutions.

THE INTERNATIONAL MEDICAL CONGRESS.—So much has already been written in regard to the complications which have arisen in connection with the organization of the International Congress of 1877 that extended comment seems scarcely necessary at the present time. The original committee of seven of the American Medical Association, it cannot be doubted, made a fatal blunder in putting "new code" men in nomination for positions in the various sections. It made no difference how eminent these gentlemen might be for their scientific attainments, there was, and still exists, in the minds of the profession throughout the country such a general feeling of indignation against the revolutionary action of the New York State Medical Society in 1882 that it was not to be expected that those who had not only approved of that action, but taken an active part in bringing it about, should be accepted under any circumstances as representatives of the American Medical Association. It was this feeling which was so successfully appealed to at the recent meeting of the Association, with the result of rendering null and void the work of the original committee and the appointment of a new and enlarged committee, a course of action which the Association, as has been conclusively shown, had a perfectly legitimate right to adopt. It is practically certain that if the first committee had placed no "new code" men in nomination, and had proposed satisfactory names for the positions to which the "new code" men were assigned by them, the action of the committee would have been substantially approved at New Orleans, and all the unfortunate train of circumstances which has now resulted would have been avoided.

As to the new committee, which met in Chicago last month, it seems also to have made one very serious mistake, viz., in the selection of its present secretary. Every effort should have been made to conciliate the members of the Association who felt aggrieved at the proceedings in New Orleans; but, unfortunately, whether deservedly or not, this gentleman is the object of such widespread distrust and unfriendly feeling that his appointment has had just the opposite effect, and whatever the pretext assigned for their action, it is sufficiently evident that this personal animosity has been the real motive which has influenced many of those who have now refused to accept the positions to which they have been appointed by the committee.

In other respects, however, the work of the committee during its recent meeting was, as the *Journal of the American Medical Association* says, highly conservative and for the most part judicious. Under the circumstances, therefore, the declination to serve of the gentlemen in Philadelphia, Boston, Baltimore, and Washington is apparently entirely indefensible. Instead of using their best efforts to bring about harmonious action and secure an international meeting that would reflect honor upon the country, they prefer to parade the dissensions among us in the most conspicuous manner possible before the world, and, on account of merely personal considerations, to lend themselves to the huhumiliating work of bringing into lasting disgrace the entire profession of America.

NOTICE.—The editor wishes it to be distinctly understood that he does not hold himself responsible for the opinions expressed in any articles published in the *Journal* except such as appear in the editorial department or such as are expressly endorsed by editorial comment in other departments.

TO OUR CONTRIBUTORS AND EXCHANGES.—All communications to the editor, as well as all exchanges and books for review, should be addressed to 22 West 31st Street, New York. Business letters should be sent to the publisher's address, P. O. Box 1124.

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ORIGINAL ARTICLES.

ARTICLE I.—EXCISION OF THE KNEE JOINT FOR CHRONIC DISEASE.*

By JOSEPH D. BRYANT, M.D., Professor of Anatomy and Clinical Surgery, and Associate Professor of Orthopædic Surgery, in Bellevue Hospital Medical College, New York.

It is not my intention to occupy enough of your time this evening to make my presence or the topic I am to consider burdensome to you. The title of this paper is a comprehensive one, much too comprehensive, indeed, to be examined carefully in all its bearings during the time I shall allot to it. It is my intention only to consider some two or more of the elements of the subject and to show a case or two illustrative thereof, rather than surfeit you with statistics, platitudes on excision, or traditional axioms of the same. It will be enough, I think, if attention be called to the following elements of the subject.

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*Read at a meeting of the New York Orthopædic Society, held March 26, 1885.

1. Under what circumstances can excision of the knee joint be performed for chronic disease?
2. How shall it be done?
3. Certain complications of the operation and their treatment.

In considering the circumstances under which it can be done, I shall not enter into a description of the diseases of the joint that are often associated with the measure, but rather consider these circumstances from a physical standpoint as bearing on the present and prospective use of the joint, the sufferings of the patient, and the complications, local and constitutional.

Functionally the knee joint is the most important articulation in the body. Mechanically it is the most complex one. The functions of its numerous ligaments, and the ever-varying relations between its articular surfaces while in motion, have not only formed the basis of spirited controversies in the profession but filled with dread the minds of numerous medical students; it therefore follows, when the functions of this joint become impaired or lost, by disease or by an injury, that it not only sadly incapacitates the afflicted but it severely tries the judgment of the medical attendant to locate the morbid process. The chief influences that maintain the articular surfaces entering into the knee joint in proper functional apposition to each other are ligamentous and muscular.

If the ligamentous connections between the bones be destroyed, or their functions be lost from so-called relaxation of their tissues, the limb becomes practically entirely useless as an agent of locomotion or protection, unless the want of power be artificially supplied. The loss or modification of the restraining influences of the ligaments on the articular surfaces of a diseased knee joint can be determined only by fully extending the limb, if possible. When thus extended—a fact to be ascertained by comparing it with its healthy associate—lateral pressure will be followed by but slight if any lateral movement between the joint surfaces if the ligaments be intact. If, however, it be impossible to extend the diseased limb to conform to the healthy one, then flex the latter to correspond to its fellow; when flexed the lateral movements between the surfaces of a healthy knee joint will be in direct proportion to the degree of flexion; hence to determine the degree of loss of function of the ligaments of a diseased, incompletely extended knee joint, compare its lateral movements with those of its fellow at a similar angle of flexion.

At this time I desire most emphatically to oppose the belief on the part of some that in a fully extended healthy knee joint, any ordinary or safe degree of traction can separate the articular surfaces an appreciable interval; it is my belief, moreover, that any degree of traction that may separate the articular surfaces of a diseased knee joint, when extended, must do so at the expense of its ligamentous integrity. I will not occupy your time considering the means of determining the tone of the muscles. Suffice it to say that if the muscles that move the leg be paralyzed the extremity will be more useful without than with the knee joint, except it be artificially supported and moved. Finally, the articular surfaces may be diseased, causing pain of too acute a character to permit of locomotion, unless, as in the previous instances, artificial support be provided I have thus briefly spoken in a general manner of physical obstacles to the use of the joint, obstacles which, if persistent, even though they be associated with and aided by the most ingenious of mechanical appliances, cause the patient too often to regard the limb as a nuisance, and life, even, as a burden. The questions of the duration of the disease, degree of suffering of the patient, surroundings of the patient, the functional integrity of the joint structures, and the liability of the occurrence of constitutional complications enter largely into, and in fact become the factors determining the action of the surgeon. If the disease have been progressive, notwithstanding the employment of local and constitutional means, then the operative alternatives must be considered. The actual and the prospective duration of the disease is a most important factor in forming a prognosis of the life and limb of the patient. If the disease have been long continued, without marked amelioration, not only will the bony and ligamentous structures be the more involved, but the greater will be the danger of constitutional complications. The length of time, if considered in connection with the frugal welfare of dependent ones, and of the patient, is very important. For instance, the mainstay of a family may be unable for an indefinite time to support those dependent on his care while waiting the tedious and uncertain processes that attend a prospective cure; the attainment of which exposes him to the contingency of consequent constitutional complications with feeble prospects of an adequate compensatory benefit, inasmuch as the joint may become completely anchylozed and consequently be placed on a par with excision, so far as this factor alone is concerned, or if a movable articulation be gained, incautious movements thereafter or violence of a slight degree may revitalize the slumbering germs of disease, and again subject the patient to pain, incapacity, and dreaded uncertainties. If the patient have unsanitary or other surroundings of a character to afford little or no encouragement in a hygienic sense, the question of an earlier operative interference must be entertained than would be advisable under diverse circumstances. To illustrate by a hospital case: A patient with chronic disease of the knee joint with destructive tendencies is admitted and at once receives the recognized local and constitutional treatment, despite which, no assured change ensues in the diseased action. A large majority of the patients that enter the general wards of a city hospital, coming, as they do, principally from surroundings both physically and morally unsanitary, afford but little encouragement to the surgeon who places a reliance only on ordinary means to effect a cure. The severity of the disease is, as a rule, at first markedly ameliorated by the influences of a systematic treatment, particularly of forced quietude in bed, better air and food, and mental and physical repose, all of which produce in a short time such a marked contrast of the patient to his first appearance that the patient and the friends unanimously award the surgeon in attendance the praise due superlative skill, and, if the surgeon be not cautious or experienced in such cases, he may be inclined to share these feelings, particularly those relating to his professional skill. In a few weeks, however, this picture changes, or not unusually remains the same indefinitely. The influences of a beneficial nature incident to the surroundings of the patient have done their work, and others of a less auspicious import begin to be felt; disappointed hopes, the monotony of the hospital surroundings, etc., etc., soon cause a species of demoralization of the patient which, although not as vicious as the home influences, yet lead to a condition of the body and mind not inappropriately denominated "hospitalism," a condition that has no distinctive pathological lesions, but which, nevertheless, exerts a powerful influence toward producing the typical lesions of the disease for which the patient is receiving treatment.

In cases of this kind, which are comparatively numerous in all large city hospitals, the demand for an early operation seems to exist. I can see no judicious reason why the unequal contest should be waged, at the probable expense of the vitality of the patient and the destruction of the joint surfaces, resulting at the best, after months of suffering, in a joint of indifferent worth and fickle tendencies.

The sufferings of the patient from the diseased joint, and the degree of structural changes in it, are usually in direct relation to each other during the active stages, although not infrequently cases are met where troublesome pain occurs during the stage of repair. If there be reason for the belief that the joint surfaces are destroyed, that the ligaments are unable to do the duties of a serviceable limb, that anchylosis therefrom is the only hope of usefulness, and that this desideratum is so remote that to secure it exposes the patient to constitutional and local dangers that may at a later period render excision less feasible than amputation; if these conditions exist, why defer an operative procedure which, when cautiously done, relieves the patient of all pain, with a good prospect of a useful limb, and without an unusual danger to his life?

The age of the patient, while exerting an important influence on the prognosis for life in excision—being the most favorable from 10 to 30 years—presents one important feature, affecting the prognosis of usefulness of the limb. If the disease be extensive, it may be necessary in order to remove it, to divide the bones entering into the articulation so as to destroy or remove the epipyseal junctions; the result of such a measure is obvious, yet I believe it to be preferable to amputation. A knowledge of this fact should suggest an early operation, before the disease shall have invaded the epipyseal junctions, or, if it be suspiciously near to them, to defer excision, hoping for an arrest of the disease before this important structure is attacked. In advocating an early excision under certain circumstances, I do not wish to belittle the persevering use of instrumental appliances or medical agents, but hope instead to impress the necessity of operating before local changes and constitutional complications can defeat the hope of success. In other words, to cause excision to be regarded not as the last resort, but as a generally excepted measure to be done when the conditions favorable to its success are present; as:

1. It should be done when remote or unsound anchylosis appears to be the only means of securing a serviceable limb.

2. When mechanical and remedial measures, faithfully applied, have failed to afford any permanent relief.

3. In vicious anchylosis and in deformities that cannot be overcome under anæsthesia, combined with tenotomy and extension.

4. As a substitute for the expectant plan when the surroundings of the patient and slow course of the disease make hopeless, or even doubtful, a recovery with sound anchylosis.

It should not be considered a substitute for amputation, but a relief from the necessity of it.

The operative details essential to success are very exacting, among the most important of which is a rigid adherence to established antiseptic requirements. The line of incision is not a matter of so much importance as its extent posteriously. It should be carried to the posterior borders of the condyles, or at least far enough posteriously to be on a line with the anterior surface of the tissues of the popliteal space; or else openings for drainage should be made through the soft parts at both sides on a line corresponding to the most dependent portion of the wound. The transverse incision passing across the patella is simple and convenient, and affords the best opportunity to remove that bone with the least injury to the soft parts. The complete removal of the diseased tissues calls for a careful examination of the hard and soft structures of the joint. The diseased articular surfaces demand attention first, and it is my custom to remove as thin sections as possible from the ends of the bones, irrespective of the presumptive extent of the diseased action, sawing them parallel with the articular surfaces, as is commonly recommended. After this the integrity of the remaining bone structure can be carefully examined and such additional portions can be removed by partial or complete sections as may be found necessary. I think this course a far more conservative one than to attempt to remove enough bone at one section to meet all indications; it offers the opportunity of examining the extremities of the bones for points of greatest disease, and thus enables the subsequent lines of section to be modified with the view of not only removing the diseased portions, but also of preserving the length and the proper line of the limb as far as possible. It is not necessary I think to remove entirely the darkly congested portions of cancerous tissue that usually lie surrounding the immediate focus of the disease; it extends often a considerable distance along the shaft of a bone, in fact, so far that to remove it entirely would not only shorten the limb greatly but might check its longitudinal development thereafter. In one of the cases which I shall show to you to-night, the diseased focus was dug out after the thin sections had been removed, and the darkly congested bone tissue that had surrounded it was not interfered with. The cavity left by the gouging-out process was drained by passing a bone drill through its bottom obliquely upwards and inwards—it was the inner condyle of the femur—through the compact external layer and the superimposed soft parts. Through this opening several carbolized horse-hairs were carried for drainage purposes. In another case which I am unable to show you, the cavity was drained by a shallow groove sawn from it to the outer surface of the bone. The darkly congested spongy bone tissue has, in the cases thus far observed by myself, presumptively resumed its normal functions, at least sufficiently to take part in satisfactory cures. It is not at all improbable that union may be delayed by reason of its presence, nor that it may, under adverse circumstances, interpose an obstacle to recovery; still, I shall continue, guided by my past experience and observation, to limit its removal to the narrowest possible compass. In another case I shall show you a chronic suppuration was found in the lower end of the femur communicating with an external opening in the popliteal space, through a cloaca in the posterior surface of the femur.

In this, the diseased cancellous tissue was scooped out and the sawn extremities were united as usual, and a drainage tube carried through the external opening to the line of union of the sawn surfaces. The diseased soft parts should in all instances be most carefully removed; to do which often requires diligent search and careful discrimination. The synovial pouches especially must be carefully examined. In the cases here presented all traces of synovial membrane were dissected away, irrespective of its pathological condition. The patella can be removed entire, or it may be sawn in twain in the line of the transverse incision; the latter is the better plan. *Drainage* is one of the most important elements of treatment, bearing on a continuous and uncomplicated recovery. The wound can be drained through the popliteal space at its outer or inner border, or by the means of counter openings at the sides of the limb, made on a level with the posterior wall of the wound. The latter plan is the more feasible from evident reasons based on the anatomical contents of the popliteal space, and is quite as effective. In the two cases here shown carbolized horse-hair was an admirable drainage agent, particularly as its dimensions could be so readily reduced by the withdrawal of several or more hairs at each dressing of the limb, enough at least to keep pace with the effusive and healing processes without incurring the danger of the closure of a rubber tube by tissue pressure, or its premature withdrawal from the wound. The decalcified tubes may be absorbed too soon to have complied with the requirements of good drainage. I am not wedded to the horse-hair system of drainage in excision of the knee, but since it has served my desires faithfully in the past it is entitled, at least, to the little additional consideration it may receive from this commendation! The fixed position of the sawn surfaces were maintained in part by two silver wires passed in the usual manner at the outer and inner aspects of the joint anteriorly. The soft parts were united by a deep and superficial row of catgut sutures, the latter being limited to the integument and superficial fascia; the former included the remaining tissues. The deeper ligatures were cut short and covered in by the integument.

It not infrequently happens that the bony union of the parts is long delayed, and even may not take place at all. I shall speak only of such reasons as relate to the dressing of the limb in connection with this sequel. There are two practical mechanical courses, in my opinion, aside from the pathological ones, that interfere with or entirely defeat bony union.

1. Improper contact of the sawn surfaces.
2. The interposition of soft parts between the sawn surfaces.

The sawn surfaces may be improperly joined, due to irregularity of their lines of section. This can be prevented, of course, only by great care on the part of the operator, who should be governed always by the accepted rules relating to them. Caution in dressing the limb so that the sawn surfaces shall be kept accurately joined to each other throughout the entire course of treatment is of great importance. This can be done by wiring the bones behind as well as in front, which introduces additional sources of possible future annoyance; or by accurately joining the surfaces after anterior wiring, or without it, and keeping them in this position until quite firm union is established, an end not as easily to be accomplished as it might seem to the uninitiated, since the effort required to hold the parts correctly by the unaided strength and attention of the surgeon while being dressed is not only extremely difficult but very fatiguing. If the limb be incautiously flexed the wires may be torn out or loosened. If it be unduly extended the posterior ligamentous structures may be caught beween the borders of the bones when the limb is flexed again. These perplexities can be overcome by a stiff splint fitted to the limb while the bony surfaces are held in position, which can be so prepared, clothed, and placed that it will not interfere with the subsequent antiseptic dressings. The tendency of the soft parts to get between the posterior borders of the bones is decided, especially if a considerable portion of bone have been removed at this situation. To illustrate: suppose the bones to have been wired in front and their surfaces carefully placed, if the leg be now extended their posterior borders will be separated, and when an effort is made to again replace them their perfect contact is prevented by the catching of the soft parts between them, and the greater the effort made to press them into position the tighter will the tissues be squeezed. This is an occurrence I have frequently been able to observe through the open wound in front. It can be obviated in three ways: (a) By wiring both the anterior and posterior borders; (b) By immovably fixing and maintaining the bones in position by a splint as before described; (c) And as was done in one of the cases—the boy—by drawing backward on the horse-hair drain that had been passed through the wound from side to side on a line with and resting on the tissues. Traction on the horse-hair drew the tissues into place and held them while the limb was fixed to the splint. In view of the fact that incautious movements are liable to disturb the adjustment of the fragments the wound should be dressed as infrequently as practicable. The general rules applicable to antiseptic dressings were followed in each instance. One was dressed twice before the final healing, the other four times. In each case the antiseptic dressings were surrounded by a plaster-of-Paris splint, which extended from the toes to the perineum, and was swung by elastic hangings. I now present you the two cases to which I have alluded, together with brief histories of the same. I do not expect to be as fortunate in all future cases, but feel that successes should be always scored when gained to encourage others in like attempts.

FUNGOID SYNOVITIS OF KNEE.

September 15, 1884.—Patrick Corning, Ward 15; æt. 16; native of Ireland; single. Family history phthisis and rheumatism. Personal history good.

Two and a half years ago he fell from a wagon, striking on his knee. A few days later his knee began to pain him, and swelled considerably; nevertheless he was not confined to bed and has always been able to walk, though occasionally while walking his knee would start (as he expressed it), and throw him down. After about a month the pain went away but the knee remained stiff and swollen. It has remained so ever since, with but little pain, save on rare occasions. For the last six months it has been worse.

On Admission.—Leg flexed somewhat: knee sightly swollen; semi-fluctuating feel as in fungoid synovitis. No marked rotation; painful points over the ligaments.

The ordinary treatment of such cases was persistently employed, in spite of which the joint structures underwent destructive changes, until ligaments admitted of free lateral motion of the joint, accompanied by grating of the joint surfaces. The head of the tibia became sub-luxated unless held in position by mechanical appliances. The patient and the friends became discouraged and requested that "something else" be done, and finally excision of the joint was proposed, and the proposition was accepted by the friends.

On January 24 the knee was excised with antiseptic precautions. An Esmarch's bandage was applied up to the middle of the thigh. An incision was made straight across the front of the joint crossing the middle of the patella; the patella sawn through and removed at once. The ends of the tibia and femur were then exposed and found diseased, the disease extending lower at the inner side of the tibia than at the outside; the diseased portions of these bones were then sawn off, the sections being oblique from within outward.

The coaptation of the sawn surfaces was perfect. Near the outer border of the sawn surface of the femur a focus of diseased bone was exposed, which was removed with the Hebra scoop, and through the hole made a small bunch of horse-hair was passed and brought out at the side of the thigh through an incision of the skin made for the purpose. The diseased soft parts were then removed with the scissors. Two sutures of silver wire were then passed through the tibia and femur, and a bunch of horse-hair was placed behind the bones, both to act as a drain and to hold the soft tissues back so that they might not insinuate themselves between the bones. There was very little hemorrhage, and but few ligatures were needed.

Deep retaining sutures and superficial sutures were inserted and the following antiseptic dressing applied: iodoform protective, iodoform gauze, carbolized gauze, iodoform bandage, iodoformized combined dressing (out to this point the main drain was brought), with iodoformized bandages; naphthalinated combined dressing with bichloride bandages. Each successive layer covered more and more of the limb so that the whole dressing reached from the foot to upper third of thigh. Over all a wire gauze trough was placed and confined with ordinary crinoline bandages. During the operation his pulse and respiration were at times very poor, and he was given hypodermically, Magendie's solution, vij. and whiskey m. x c. Was then put in bed and surrounded with hot bottles.

January 25. Has but little pain; suspended the limb with elastic suspension.

January 26. Temperature yesterday 101° F. Comfortable this morning.

January 31. Redressed. Drain removed, so that it now occupied only the outer half of the wound. There is a little suppuration around three of the sutures, at the outer side, where for a space about an inch the wound has not united superficially. Dressed as before; applied a plaster splint as far as the upper edge of the dressing.

February 10. Wound united, all drainage removed; dressed as before.

February 21. New splint applied (hip spica); patient walks about the ward on crutches.

March 17. Splint removed; some bony union but not firm; plaster-of-Paris splint again applied.

This patient made a perfect recovery without further trouble, the pulse and temperature being substantially normal from January 27.

The catgut with which the three sutures were made that suppurated at the outer side, came in contact with a hospital blanket accidentally, before these sutures were introduced. This, in the opinion of Dr. Bryant, was the cause of the suppurative action.

Ankylosis of Knee.

January 8, 1885.—John Walsh; age 42; unmarried; native of Ireland; United States, 20 years; bartender. Family history good. Had measles and small pox when a child; syphilis when 28 years old; has drank little during past two years; general health has always been very good.

Has had trouble with his left knee off and on for 34 years. The first he can remember about it is that when a child about 8 years old, he was one day crossing a field when suddenly he lost all power of his limb; a pain shot through it and with a cry he fell to the ground. He was carried home and put to bed, where he remained six months. During this time a "lump" formed slowly over the internal condyle of the femur, broke and discharged matter and a small piece of bone. After the bone came away the opening healed up and he regained excellent health in a very short time. About 18 months later a second abscess formed, broke, and another small piece of bone came away. This abscess was over the outer condyle of the femur. When 14 years old a third abscess formed, situated on the popliteal space, which took the same course as the others. For three years he was in good condition, suffering only an occasional pain in the knee. Another abscess formed at the inner side of the knee, which acted as the previous ones had. From the age of 17 to to the age of 28 he had no trouble; then another abscess formed at the inner side of the thigh. He went to St. Vincent's Hospital, where the abscess was opened and scraped out, but no dead bone was found. About two years ago his leg got a severe wrench; it did not interfere with his work, but he noticed that it had become a little crooked; the crook has increased since. Soon after this his knee suddenly swelled up, and soon an abscess formed, as usual situated at inner side of thigh. He went to Charity Hospital, where the abscess was opened and scraped out, but no dead bone was found. He remained there 8 weeks, during which time the deformity of his limb increased. Before this he had always walked without limping, and his knee had been perfectly movable. For four months after leaving the hospital he was sick abed, and during this time the deformity increased and the knee became stiff. About four weeks ago a swelling formed on the site of the old incision on the outer side of the knee; it broke, and has since been discharging a thin watery fluid.

On admission.—Knee firmly ankylosid in a flexed condition at an angle of about a right angle, limb shortened, patella, immoveable. A number of cicatrices are to be seen about the knee corresponding to the sites of the various abscesses and incisions. Tibia deflected in frontal plane towards medium line as though there had been a fracture about an inch below its head and union with angular deviation.

On January 17 the joint was excised, under ether, with antiseptic precautions. Esmarch's bandage was applied. An incision was made directly across the knee below the patella, from the origin of the external to that of the internal lateral ligament; this was afterwards prolonged upwards about a half inch at each end. Starting from and ending at the same points a second incision was made above the first, so as to take out a crescent-shaped piece of the soft parts and avoid redundancy of flaps. Soft parts being well retracted a wedge-shaped piece was then sawn out of the bones, including the patella, most of the femoral condyles and a part of the head of the tibia.

The central part of the exposed end of the femur was diseased, and the matter was removed with the Hebra scoop. A probe passed into the sinus on the outer surface of the thigh, two inches above the end of the incision, passed into the bone and emerged at the sawn surface. Through this path a small rubber drainage tube was passed. When the Esmarch's bandage was removed considerable blood flowed from the tube, but the flow ceased entirely when the dressing was applied. Two large silver wires were passed through the tibia and femur, to hold the bones firmly in opposition, and their ends twisted and turned down after being cut short.

Before tightening the wires horse-hair was passed under along the posterior surface of the joint cavity from one side of the knee to the other, to serve first as a drain, and second to keep the soft parts behind from getting between the sawn surfaces when they were brought together. The Esmarch's bandage was then removed, hemorrhage was very slight, only one small artery and three or four small veins required ligature. The deeper soft parts were united by a row of interrupted sutures, and a second row brought the integumental edges into excellent opposition. An antiseptic dressing was then applied, as in the preceding case, extending from the foot to the upper part of the thigh ; pulse good throughout the operation. A plaster-of-Paris splint was applied over the dressing; patient placed in bed, limb suspended, and Majendie vij. given hypodermically.

January 18. Reacted well from ether. Bloody serum has extended to upper edge of splint; put on iodoform and borated cotton to cover it, removed suspension.

January 19. Bloody serum has penetrated the splint over the knee.

January 20. Redressed. A few drops of pus at outer side of knee in line of sutures. Union all the rest of the way; dressed with iodoform, and iodoform gauze, etc., wire splint and elastic suspension.

January 27. Condition good, temperature normal, a little pain at night. Horse-hair drainage removed. Slight discharge from drain on poplitial space ; incisions all united.

February 7. Drain removed from poplitial space; new splint applied.

February 25. New splint applied; the old sinus on posterior surface thigh still open.

March 15. Splint removed, bones found to be firmly united. Posterior splint applied ; patient walks about the ward on crutches.

During the entire course of the treatment the temperature was normal. The patient soon became able to walk without crutches, but the old sinus in the popliteal space continued to discharge a thin fluid for a long time. It is quite evident the same dead bone still remains at the posterior surface of the lower end of the femur.

ARTICLE II.—COMPLETE LACERATION OF THE PERINEUM AND PART OF THE RECTO-VAGINAL SEPTUM; RESULTING FROM FORCEPS DELIVERY. PRIMARY OPERATION, COMPLICATED WITH TRAUMATIC ERYSIPELAS.

By A. B. Cook, A.M., M.D., formerly Professor of the Surgical Diseases of the Genito-Urinary Organs and Rectum in the University of Louisville, late Professor of the Science and Art of Surgery and Clinical Surgery in the Kentucky School of Medicine, and one of the Visiting Surgeons to the Louisville City Hospital, etc, etc., Louisville, Ky.

On the 10th of February last, about 8 P. M., I was summoned by a medical friend to visit Mrs.——, who married when 22 years old, and had been a widow three years, when, in April, 1884, she married her second husband. The first marriage was without issue. She is a well-developed woman, above the average size, and weighs 140 lbs. On inquiry I ascertained the case to be that of a primapara; duration of labor, 17½ hours; second stage, 4½ hours. The waters broke, in the absence of pain, during the first stage, when the os was thin, hard, and dilated to about the size of a silver half-dollar, vaginal outlet small, soft tissues, unyielding, the head large—circumference 14½ inches. The forceps had been used about 7½ P. M., and the soft tissues suddenly gave away as the head was about to emerge.

On my arrival one hour after delivery, a digital examination showed that the laceration commenced high up in the vagina, on the left side of the septum, tearing the tissues obliquely to the right, and exposing the fibrous investment of the rectum almost to the median line. It then passed downward obliquely through the septum and sphincter ani muscles, tearing the latter from the septum, at their junction with it, and then obliquely through the perineum proper, finally reaching the raphe at the verge of the anus. The wound measured in length six inches from the commencement in the vagina to the perineal center. The soft parts were much tumefied, the lochial flow was free, filling up and obscuring the extensive wound.

The patient was drawn to the edge of her bed and placed in the position for lithotomy. Anæsthesia was readily produced, she having been chloroformed during delivery, while the sensibility of the soft parts had been obtunded by the pressure of a large head. The lacerated wound favored the arrest of hemorrhage, and hence there was little trouble from this source.

The vagina, above the laceration, was plugged with sponges to prevent, as much as possible, the flow of blood into the wound, and a Sims speculum was introduced to expose the cavity, and held by an assistant. I then proceeded carefully and deliberately to operate. The ragged edges of the wound were clipped off with scissors, and then by the light of a lamp I passed the silver wire sutures. Four sutures were first passed, with Fischer's needle, through the torn septum; then five in the perineum, the first at the verge of anus. The needle was inserted on the left side, fully one inch from the edge of the wound, and carried downwards and backwards around the circle of the sphincter muscles, through the recto-vaginal septum, and out through the skin at a corresponding point on the right side. When the eye of the needle emerged through the skin it was threaded with the silver wire and withdrawn, leaving the suture in place. The second suture was introduced in a similar manner, about half an inch above the first, and carried also through the recto-vaginal septum to close it and completely draw it down and secure perfect co-aptation and retention between the septem and sphincters. The third suture was passed the full depth of the perineum and through the lower margin of the septum, the fourth and fifth closing the lower inch of the labia. The vaginal sutures were drawn sufficiently tight to co-aptate the edges, and secured by twisting with needle forceps. The perineal sutures were alternately tightened—commencing with the first—and twisted, while the ends were clipped off short. I prefer the plain twist, it is equally secure, less complicated, makes less traction and does less cutting through the skin. The more simply wounds—accidental or surgical—are dressed the better. It required less traction of the sutures to co-aptate the surfaces than in cases of old standing where cicatrices have formed and the soft parts contracted and retracted, while the hemorrhage was much less. After dressing the wound, the vaginal sponges were removed, the vagina syringed with hot water and anointed with carbolized glycerine, a catheter introduced to evacuate the bladder, the knees bandaged together, and the patient then placed in bed on her right side. To quiet pain, give rest, and lock up the bowels—the latter had been freely unloaded, and the stomach evacuated during labor—a half grain of morphia was given, and one-fourth grain ordered every three or four hours *pro re nata.*

The nurse was ordered to use the catheter every six or eight hours. The following morning the pulse was 96, temperature 101, and the patient was ordered a three grain capsule of bisulphate of quinine three times a day, one-fourth grain morphia every four hours, and hot water vaginal injections morning and evening, followed by two ounces of the following:

℞ Carbolic Acid, - ʒ ss. Glycerine, - ℥ iij.
Distilled Water, - ℥ v.———M. Ft. Sol.

The injections were supervised by myself. The diet consisted of sweet milk, Liebig's extract of beef powder, and, if desired, ice cream.

From this time until the night of the 14th the case progressed admirably, the pulse ranging from 94° to 98°, the temperature from 98° to 101°, and the wound appeared to have united by first intention—there being an absence of swelling and inflammation. There was no material change in the treatment until the morning visit on February 15, at 9 o'clock, when the patient stated that she had passed a restless night. The pulse was then 110°, and the temperature 102½°. An examination showed that traumatic erysipelas had developed on the left natis, the inflammation extending outward and upward toward the spine, inward to the edge of the wound and raphe. The skin was hard, elevated, and red, with little tenderness on pressure. The lochial flow had ceased, and the discharge now was slightly discolored, moderate in quantity, and without any odor of decomposition. Used vaginal injection—three quarts—carbolized hot water, followed by the carbolized glycerine mixture: painted collodion over left natis, extending the coating two inches outside the erysipelatous blush, and ordered,

℞ Tr. Ferri Mur., - - - - - - - ℥ ss.
Syrup. Aurantii, - - - - - - ℥ ij.

M. S. a teaspoonful in a wine glass of water every two hours. Continued the quinine as before, and one-fourth grain morphia every six hours.

The room was disinfected with freshly parched coffee, the parching being done in an open vessel on hot coals, and repeated two or three times during the day—result, rapid disappearance of all tainted atmosphere. 5 P. M. pulse 108, temperature 103°. Patient slept during the day, and feels more comfortable. The mammæ were small, without tenderness, and contained but little lacteal secretion, although they had been suckled and drawn with breast pumps. She suffered severe pain in the right hip joint when lying on the right side. No extension of erysipelas since morning; used the vaginal injections, and continued treatment.

February 16, 9 A. M., pulse 96, temperature 100°. Patient had a better night, tongue cleaning, relishes food, erysipelas subsiding, inflammatory blush and hardness much less. On passing the apex of index finger into anus, a small quantity of bloody pus was discharged. The sphincter contracted over the finger, and gas passed with little pain. There was no occasion to use the rectal tube—a No. 16 English gum catheter—which was directed to be used when necessary. I removed the middle or third perineal suture. There was no pus, and the wound was closed. The vaginal injections and general treatment were continued; the room to be still disinfected two or three times a day with freshly parched coffee beans. The wound, at the evening visit, was more sensitive than heretofore.

February 17, 9 A. M., pulse 90, temperature, 98°, the erysipelatous blush receding rapidly. Removed second and fourth sutures, the wound still looking in good condition. Suspended the quinine on account of quininism, continued the iron, morphia. and concentrated nourishment, but allowed no solid food.

5 P. M. pulse 112, temperature 102½°, some thirst. She to-day complained of more pain when lying on the left side, the position she decidedly preferred because most comfortable. Probably the pressure and unavoidable moisture of the clothing, at times, from discharges, may have acted as an irritant and favored the extension of the erysipelatous inflammation to the loins and spine, which explained the change in pulse and temperature. After using the carbolized hot water and glycerine vaginal injections, she was directed to lie on the right side, and the entire old and new field of erysipelas and surrounding healthy skin were painted with several coats of collodion. The muriated tincture of iron was given every two hours, three grain capsules bisulphate of quinine and one fourth grain morphia every six hours.

February 18, 9 A. M., pulse 112, temperature 99½°; 6 P. M. pulse 116, temperatute 102¼°. No extension of the disease, tongue moist and clean. There was a copious non-sanguinolent uterine discharge to-day. The first and fifth perineal sutures were removed. The usual vaginal injections were administered, the diseased surface painted with collodion, and the general treatment continued.

February 19, 9 A. M., pulse 100, temperature 99¾°. She had a good night, there is a slight discharge of pus along the line of the perineal wound; the anus is more easily penetrated, no extension of erysipelas, the blush paler, the left nates is still swollen, the tumefaction reaching the raphe or line of the wound, but there is absence of pain. Treatment continued.

6 P. M. pulse 116, temperature 102¾°. Since the morning visit the erysipelas has extended across the line of perineal wound, over the sacrum and part of the right natis. The entire surface involved was thoroughly painted with the collodion, also the healthy skin on the vulva as a protection from vaginal excretions. Ordered muriated tincture of iron, twenty-four drops every two hours, and the following mixture:

℞	Bisulphate of Quinine	grs. iij.
	Sulphate of Morphia	gr. ¼.
	Whiskey	℥ ss.

M. S. For one dose. To be repeated every six hours.

As nourishment she takes, every twenty-four hours, one pint of cream, two teaspoonfuls of Liebig's extract beef powder, and chicken soup made from the meat and bones, the skin being first removed.

February 20, 9 A. M., pulse 102, temperature 100¼°, She had a bad night, vomited the iron, and suffered from gaseous distension of the stomach and bowels, and collicky pains which were relieved with bicarbonate of soda and essence of peppermint. An alvine evacuation was threatened, and the rectum was moderately distended with feces. There was still some oozing of pus from the perineal wound, and non-union of the skin, the erysipelatous inflammation had destroyed the plastic material. The parts were not separated to explore the extent of the solution of continuity. Suspended the iron, and ordered the quinine and morphia every six hours, and diet as before. The carbolized hot water vaginal injections, followed by the carbolized glycerine, were rigidly used, and collodion painted liberally over the diseased skin.

6 P. M., pulse, 116 temperature 103°. No nausea or vomiting to-day, no gas or effort to have an evacuation; complains of soreness of hip and thigh; the surface red, but no hardness or elevation of the skin; discharge from the vagina slight. Ordered six grains bisulphate quinine every six hours until she was thoroughly quininized, morphia as before, and the entire red surface painted with collodion.

February 21, 10 A. M., pulse 86, temperature 98½°. She had a comfortable night, good, quiet sleep, and healthy free perspiration; the tongue is moist and clean, erysipelatious blush subsiding rapidly. Removed a portion of the collodion glazing, skin healthy, some tenderness and redness over right hip and thigh, due to lying in one position. Ordered the red surface painted with collodion for protection from pressure and moisture. To secure more perfect coaptation of the perineal wound—length three-fourths inch, depth one-half inch—and facilitate, if possible, union by adhesion or granulation, I applied over the nates two strips of rubber adhesive plaster, one and a half inches wide by eighteen inches long, the center of the strips corresponding to the wound. The cleft of the nates was drawn moderately tight to hold the surfaces of the wound in apposition. After the plaster was adjusted the patient expressed a feeling of relief and comfort. General and local treatment continued.

6 P. M., pulse 101, temperature 101¾°. She had a good day, slept quietly a great part of the time, food relished, no gas or pain in the bowels, no discharge from the wound since the rubber plaster was applied. The patient again spoke of the great comfort from the support of the plaster.

February 22, 10 A. M., pulse 96, temperature 99½°; 6 P.M., pulse 100, temperature 102°. No thirst to-day, slept soundly, no secretion from the wound, rubber plaster firmly adherent, some gas passed *per rectum*, no complaint except fatigue and pain in the right hip-joint. Free secretion of urine, which is now limpid and almost natural in color. During the erysipelas it was high colored and turbid. The secretion has, throughout the treatment, been copious. The catheter, for two days past, has been used every three or four hours; previous to this, every six hours. The free secretions of the skin and kidneys seem to act as safety-valves, and compensate for the lockup of the bowels. Ordered three grains bisulphate quinine and one-fourth grain morphia every six hours, and the under surface of right hip and thigh painted with collodion. All symptoms of erysipelas having disappeared, I could now distinctly feel the cicatrix the entire length of the wound in the recto-vaginal septum, indicating union of the parts lacerated, as noted above.

February 23, 10 A.M., pulse 100, temperature 101°. Despite the elevation of temperature, the patient feels comfortable. There is no abnormal heat of the vagina, no gas, no impaction of excrement in the rectum, and no oozing of any secretion from the perineal wound. The rubber plaster still adheres well and does not in the least interfere with local manipulation, and injections. The catheter has been used less frequently the past twenty-four hours. The quinine was suspended, morphia given as usual, and concentrated nourishment taken at regular intervals.

February 24, 10 A.M., pulse 102, temperature 101°; 6 P.M., pulse 108, temperature 102°. No change worthy of note; treatment continued and collodion painted over all red surfaces.

February 25, 10 A. M., pulse 96, temperature 101°; 6 P. M., pulse 102, temperature 101½°. Profuse perspiration last night; had a comfortable day, excepting uneasiness for a short time from gas. Permission was given to turn and change position at pleasure. When turned on the left side, the full extent of the surface affected by erysipelas was apparent. The inflammation extended over the left nates, hip, thigh, loin, and left side of the abdomen up to a line parallel with the umbilicus, and inwards on the cleft of the left nates to the perineal wound and lower half of left labium majus. The fifth day after the advent of the disease it extended across the median line, over the right nates. hip, thigh, back and abdomen above the height of the umbilicus. To-day all redness, with the exception of a small space over the right trocanter major—due to pressure—has faded, and tenderness on pressure has ceased. The vagina and wound are free from discharge. Treatment continued.

February 26, 10 A. M., pulse 98, temperature 98½°; 6 P. M., pulse 120, temperature 102¾°. Cathether has only been used twice in eighteen hours. Ordered six-grain doses of bisulphate quinine to be given to-morrow forenoon at 8 and 10 A. M. and 12 M. At 9 P. M. was summoned in haste, and on arrival found that the patient had been awakened from a sound sleep by severe griping pains, followed by a loose evacuation, which had passed upwards over the vulva and back between the cleft of the nates—the direction being due to the pressure of the rubber adhesive straps. A thorough examination showed union of the sphincters and upper part of the perineum, the skin and cellular tissue of the intervening space had not united; the exposed surfaces were clean, granulations healthy and no pus, the vaginal cicatrix was firm, and the vagina devoid of feces. The parts were drawn well together by new rubber adhesive straps and one fourth grain more of morphia given. The fever of the evening was subsiding.

February 27 and 28 pulse ranged from 90 to 98, and the temperature from 98½° to 100°; no change in treatment.

March 1 to 3 inclusive, pulse 84 to 90, temperature 98° to 99°. Continued the quinine and gave half to one-fourth grain morphia at night, omitting it during the day. The vaginal injections were given twice daily. At the morning and evening visits enemeta of warm soapsuds were administered, each of which removed a portion of the accumulated contents from the rectum.

March 4, pulse 90, temperature 98°. She had a free natural alvine discharge this morning, which completely unloaded the rectum. The knees were unbound and the four vaginal sutures were removed. The union of the recto-vaginal septum was perfect, and the internal sphincter contracted firmly around the finger. A fissure in the perineum three-fourths of an inch long and one-fourth inch in depth is the only remnant of the extensive laceration. The patient declined to have sutures admitted to make the operation not only successful but complete. Applied new rubber plaster across the buttocks to compress the perineum until the parts fully contract, and ordered the nurse to give, morning and evening, a hot-water vaginal injection—no further restriction in diet.

March 7, pulse 88, temperature 98°. She has sat up a short time each of the past three days. She has numbness of the lower extremities and the hip-joints and spine are stiff from lying so long in one position. For three days she has taken daily six grains of quinine, but no morphia at night. She has a good relish for food, and has gained strength rapidly. To promote further granulation in the small fissure, I ordered the following:

℞ Iodoform - - - - - - - ʒ ss.
Coca Butter - - - - - - grs. xi.
M. Ft. tablets, No. viij.
S. Insert in fissure daily and retain if necessary with T compress.

March 12, pulse 84, temperature 99°, more strength in hip joints, but is unable to walk yet without support. She has a daily alvine evacuation, and says she now has as good control over the bowels, and sphincters as she ever had. Perineal wound smaller. On the 8th suspended quinine and ordered syrup hematic hypophosphites, (P. D. & Co.) one teaspoonful three times a day. She eats and digests any kind of food, but prefers plain, substantial edibles, such as beefsteak, oysters, corn bread, etc.

March 15, pulse (sitting up) is 90, temperature 99°, she is able to walk alone. Rubber adhesive straps and other treatment continued.

March 21, pulse, sitting up, 90, temperature, 99°, general condition, good, the surfaces of fissure tender from application of stick nitrate of silver, two days ago and apparently in good condition to further granulate; applied a long strip of rubber plaster over the buttocks, passing over center of the pereneum. The plaster does not interfere with the regular evacuation of the bowel or bladder, or sitting up and walking about the house. Menstruation came on yesterday, the flow was limited, a pledget of absorbent cotton was introduced between the labia and inferior commissure to protect the fissure from the secretions of the uterus and vagina.

March 22, 12 M., pulse, 96, temperature, 101°, tongue white and furred, no appetite, skin dry and hot. At 2 A. M. she awoke with severe pain in the left loin, and great tenderness of right ovary. Treatment,

℞ Morphiæ Sulphat. - - - - - grs. ij
Ipecac. Pulv: - - - - - - grs. j
Extracti Belladonnæ - - - - - grs. j
M. Ft. capsules no. viij.
S. One capsule every two hours until pain is relieved. Apply over the abdomen hot flannel fomentations, sprinkled with turpentine.

℞ Bisulphate Quinine - - - - - ʒss
Ft. capsulæ no. xij.
S. Two capsules every two hours until three doses are taken daily. Vichy water (artificial) as a beverage *ad libitum.*

March 23, 12 M., pulse 82, temperature 100°; one anodyne capsule and the hot fomentations relieved the pain.

March 25, 12 M., pulse 90, temperature 100°; she has been excited to-day by departure of her husband on business; she feels well, appetite returning, no thirst, and sleeps well. The fissure looks well, and has almost filled up, least depth one-eighth inch, greatest one-fourth inch. Ordered five grains bisulphate of quinine at 9 and 11 A. M. for three days, and the syrup of hematic hypophosphites to be resumed at meal time.

March 31, pulse and temperature normal, appetite is good, she is able to ride out, the vagina is contracted and muscles firm, womb in natural position, no discharge, the bowels act daily without medicine, the anal sphincters are perfectly restored. She suffers no pain and feels as well as she ever did, saving weakness from confinement to the house and want of accustomed exercise. Ordered syrup of hematic hypophosphites to be continued three times a day in teaspoonful doses, at meal time, good substantial nourishment, and daily out-door exercise. Patient discharged cured.

To myself this complicated case was an interesting one, and of sufficient importance to very briefly direct attention to some salient points. Traumatic erysipelas, under the most favorable circumstances, is, in recent wounds—accidental or surgical—a dangerous complication, occurring the fourth day after the operation, before the plastic material had become organized, it was exceedingly fortunate that the inflammation destroyed only a small portion of that which united the perineal wound. There was entire freedom of the vagina, uterus, and peritoneum from any symptoms of erysipelatous traumatism. Where post partum erysipelas occurs, the uterus with peritoneum is usually first attacked, and the disease often ends fatally. In this case there was every reason to apprehend a failure of the operation and great danger to the life of the patient. It is fair to infer that the scrupulous care that was taken to ensure local disinfection was entitled to much credit for the success.

I am disposed to believe that the persistent use, first of the hot water injections, and of the carbolized hot water injections followed by the carbolized glycerine lotion in sufficient quantity to cover and protect the cervix, vagina, and entire tract of the wound, did much to preserve these organs and tissues from invasion of the disease. The simple hot water was, in my judgment, the chief preservative. Hot water is a great antiseptic remedy; it soothes irritation, it allays and prevents inflammation, it stimulates the capilliaries to activity and arrests inflammatory effusions, it acts as an astringent and prevents the absorption of septic poison or essence of decomposed fluids, and it destroys germinal vitality. It is highly probable that hot water will, in itself, accomplish most that is claimed for the antiseptics largely diluted with water.

The question may be asked, do we not attribute many of the good results obtained in solutions, locally applied, to the medicine, and rob the water of its proper meed of praise? Is the profession generally yet prepared to give water —at temperatures varying from ice to steam—its proper rank as a powerful therapeutic agent, when intelligently used, and equally as great a power for evil when used unadvisedly and indiscriminately?

The profession almost uniformly make local applications in erysipelatous inflammation—traumatic or idiopathic—some of them mild to soothe and allay irritation, others to prevent the extension of, or to arrest the inflammation. Exactly how far, or in what way, local remedies arrest, shorten the duration of, and hasten a cure of the disease, has not been positively determined. Suffice it to say, such remedies are used, and we have faith in their efficacy in some way.

In this case, the desideratum was, what to use. Under the circumstances, soothing remedies, lotions, hot foments, poultices, &c., were out of the question; the destructive agents—nitrate of silver, iodine, &c., could not be used. In this dilemma collodion was selected; it was used unsparingly, and met the emergency. It formed an impervious coating over the inflamed surface, excluding air and moisture; in drying, it contracted and unloaded the capillary vessels, diminished the redness and tumefaction of the skin, and prevented the formation of bullæ. It allayed cutaneous pain and irritation, it shielded the skin from destruction, and prevented the intolerable heat which would have ensued by lying constantly on the inflamed cuticle. It was so transparent that the local condition was always visible and the patient was not annoyed with redressing more than once in one to three days. If it cracked, a camel's-hair brush, armed with collodion soon repaired the breach, and every third or fourth day, when it became detached in mass, it was removed and renewed. It certainly did shorten the duration of erysipelatous redness and swelling. In my next case of erysipelas, I will substitute flexible collodion—if not quite so adhesive and transparent, it will be more pliant and pleasant. To any of my former students, who may read this article, I confidently recommend this remedy, in preference to any other, as a local application in erysipelas.

In all future operations of this class, I shall use the long strips of rubber adhesive plaster, and will apply them as soon as the sutures are adjusted. I feel satisfied, from my observation in this case, that the straps will relieve the tension on the perineal sutures, prevent disturbance of coaptation and add much to the comfort of the patient.

Eminent gynæcologists are divided in opinion as to the advisability of, or preference for, a primary or secondary operation, having in view, on the one hand, the safety of the mother; on the other, the success or failure of the operation. Some advise a primary proceeding as soon as possible after the accident; others advise it where the perineum or perineum and anal sphincters are ruptured: but decline to operate when the recto-vaginal wall is, to any considerable extent, implicated. Others advise waiting a few days until uterine hemorrhage and discharges have ceased; while others—the minority—advise postponement of all operative interference until the patient has recovered entirely from the effects of parturition.

It is not my province or purpose to criticize the matured opinions of others. or attempt by argument to show the futility of objections to the primary operation. It would be useless, at this day, to discuss and contrast the advantages and disadvantages of primary and secondary operations. I give my opinion for what it is worth. While I cannot admit of any serious danger to the patient from an immediate operation—if it fails the patient looses nothing—I can see many complications and perplexities from delay for a secondary operation, viz.: long confinement to the recumbent position, inability to stand erect or walk without distress or pain, eventually prolapsus or procidentia uteri, irritation of the bladder, vesical or rectal hernia, or both, involuntary discharges of feces and gas, exclusion from society, mental agony and utter disgust with self and all earthly things.

From my own observation in this complicated case, I am, under all circumstances, a decided advocate for the primary operation irrespective of the extent of laceration of the recto-vaginal septum; and where the accoucher is unskilful, would advise summoning an expert operator; a few hours delay would not materially militate against success. If there is hemorrhage, use ergotin by the mouth or hypodermically, hot water injections, digital titillation, plug, etc.; if the patient is prostrated from loss of blood, sustain strength by alcoholic stimulants in moderation, fluid extract or wine, or better still, glycerole of coca—the latter a palatable and efficient preparation manufactured by J. A. Flexner of Louisville—administered in full doses, hot sweet milk, with the bicarbonate of soda, or aromatic spirits of ammonia if the stomach is acid. Then anæsthetize the patient, and take time to perform the operation well and thoroughly, first preventing the flow of blood by sponges pressed high up in the vagina and held if necessary with forceps or wire, then clipping the ragged edges, and cleansing effectually with hot water. Should I be called to see a case similar to the present one, after adjusting and clipping off the ends of the sutures I would dry the vagina and perineal surfaces with soft lint or absorbent cotton, and paint the entire track of the wound with flexible collodion, keep the vagina coated with carbolized glycerine, and personally supervise all local manipulations.

If a trained nurse could not be procured to introduce the catheter as often as necessary, to prevent any flow or dribbling of urine over the wound, or if the bladder became irritable, I would introduce a self-retaining catheter, with several feet of gum tubing attached to the open end to convey the urine as fast as secreted into the chamber. Keep the patient constantly on one or the other side, and use the catheter and all vaginal injections without change of position. It is premised that the patient will use concentrated food; the bowels to be kept locked up with opiates, and rectal gas removed by the introduction of a large catheter; if the gas is very annoying, introduce a short piece of gum tubing or end of a catheter and let it remain permanently to give free exit to, and prevent distention of, the rectum from accumulated gas.

ARTICLE III.—THE USE OF CARBONATE OF AMMONIA IN CEREBRAL HÆMORRAGE, THROMBOSIS, AND EMBOLISM.* By R. C. VAN WYCK, M.D., Hopewell Junction, Dutchess Co., N. Y.

On the 6th of January, 1885, I was called to see a gentleman 85 years of age, a farmer by occupation, a man of remarkable preservation and very active habits, a man who has never been seriously ill, with exception of slight attacks of malarial fever and rheumatism, until one year previous, when he injured his right index finger, and by carelessness on his part erysipelas appeared, which, extending from his finger to the hand, terminated in deep palmar abscesses, confining him to the house for over four months. This left him in a very weak state physically, and the sufferings he endured and the various operations necessary to relieve these abscesses materially weakened his mental condition, though his mind was clear and his memory good. One year after this, after being chilled by working in the cold (threshing), he went to bed feeling very stiff and tired and had a chill and some fever during the night. On attempting to get out of bed the next day he could not do so, and could neither walk or stand alone or use his left side. For a month previous to this he had threatenings, viz.: sharp, shooting pains through his head, dizziness, and a peculiar stiffness of the limbs resembling rheumatism, and slight attacks of vertigo when stooping over and rising up suddenly. Has well developed arcus sinilis, contracted pupils, and corded pulse.

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*Read at the second scientific meeeting of the Fifth District Branch of the New York State Medical Association held at Poughkeepsie, May 19, 1884.

On the 6th of January, at 11 A. M., I found him completely hemiplegic, unable to move either hand or foot, the normal sensation being diminished one-half, as compared with the sound side; pulse 84, intermittent; temperature, 97°; tongue slightly inclined to the paralyzed side, and mouth slightly drawn to the sound side; eyes and face flushed, and the ears quite red. His mind was not at all affected, and he was conscious that he had had an attack of paralysis; pupils normal, and responded well to the light; complained of headache, and was restless.

Gave him calomel and pulv. rhei, each gr. v., to be followed every four hours until motion of the bowels was produced. Warm bottles were placed to his feet and cold applications to the head.

Internally, bromide sodium, gr. xv., with fl. ext. ergot, m. x., every two hours.

January 6, 6 P. M., paralysis complete, unable to move either hand or foot (left side) or to turn in bed, bowels moved by enema four times, pulse still full and intermittent, and headache considerable; pulse 84, temperature 100°.

January 7. Slept some last night, but was restless, waking up every hour or so; pulse very full, 84, temperature 99½°. Gave tr. aconite root gtt. i., with grs v. citrate potash every two hours; bromide sodium, grs xxv., with m. x. fl. ext. ergot three times daily—6 A. M., 12 M., and 6 P. M. Applied six wet cups behind the ears and nape of the neck, followed by warm applications to increase the bleeding.

January 7, 6 P. M., temperature 100½°, pulse 84, strong, and occasionally intermittent. Gave fifteen grains each of bromide of potassium and ammonium every hour, for three doses, until sleep was induced, not to be waked to take medicine during the night.

January 8. Feels better, slept about six hours during the night, has considerable cough, very tight, which gives him pain in the head.

Has extensive bronchitis of both lungs and slight dulness at the base of the left lung. Complains of pain on the left side; expectoration very tenacious, muco-purulent; pulse 84, temperature 99°; pulse strong. Gave tr. aconite root gtt. i., with ⅛ drachm syr. ipecac, grs. v. nit. potash, in a teaspoonful of liq. ammoniæ acetatis every two hours.

Ergot and bromide of sodium given three times a day as before.

The wrist and hand, as well as the foot, of the paralyzed side are swollen, and cooler than the sound side; head and face still flushed.

January 8, 6 P.M., temperature 100°, pulse 70, inclined to be feeble; aconite omitted.

Gave the bromides of potassium and ammonium, the same as last night, to induce sleep.

January 9, 8 A. M., temperature 98½°, pulse 78, inclined to be feeble and intermittent, wrist and hand swollen, finger nails blue, foot swollen and cold.

Has considerable cough, very tenacious and difficult of expectoration; has some pain in his left side and across his breast (left side). Dulness on percussion increased on the left side, sub-crepitant râles heard at the bases of both lungs, more markedly on the left, where they are very fine, take more of the character of crepitant. Is unable to move his paralyzed limbs or turn in bed.

Gave carb. ammoniæ gr. v., syr. ipecac ⅛ drachm, spts. nit. dulce gtts. xx, with one dessertspoonful of liq. ammoniæ acetatis every three hours; bromide and ergot omitted.

January 9, 9 P. M. Patient seems better, pulse regular, soft 78, temperature 99°. Cough still troublesome. Skin feels better, and is in perspiration. The bromides of potash and ammonium given as before to induce sleep.

January 10. Has some diarrhœa, but feels better, less pain in the head, circulation in paralyzed limbs better, wrist and hand are beginning to lose their purple tinge. Headache disappearing, pulse 78, temperature 89½°. Cough considerable, expectoration freer.

January 10, 6 P. M. Has noticed that the pain in the head is worse every day about 12 o'clock, increasing until about 3 in the afternoon, when it diminishes and is followed by some fever and sweating; pulse 84, temperature 100°, urine high colored. Head flushed, and has darting pains in different parts of the head and in the joints and limbs. Has pain in the bones and yawns considerably. Ordered quinine, two grains every three hours, alternating with carbonate of ammonia mixture. Bromides given as before for sleep.

January 11. Patient restless, did not sleep well last night, has darting pains in different parts of the body. Temperature 98½°, pulse 78. Evening, temperature 100°, pulse 84.

January 12. Patient seems better, slept better last night, but is frequently awakened by frightful dreams. Cough still considerable, and annoying—head still worse in the after part of the day, temperature 98½°, pulse 78—Continue the carbonate of ammonia with ipecac and liq. am. acetatis—substitute cinchonidia for quinine in same doses. 6 P.M., temperature 98½°, pulse 78. Bromide for sleep.

January 13. Much the same as yesterday, head less painful. Cough and expectoration better. Temperature and pulse normal.

January 16. Patient is comfortable, has some pain in the head every other day, but it is of less severity. Cough and expectoration better, pulse and temperature normal. Sleep more natural and not so disturbed by dreams.

January 20. Patient is very comfortable; has no pain in his head, and his cough has nearly disappeared. His circulation in the paralyzed hand and foot is better. Is able to draw his leg up a little but cannot turn or twist in bed. Carb. ammonia gr. v. in ʒss. liq. acet. ammonia three times a day after each meal. Cinchonidia gr. iij three times a day before each meal. Bromides at night if necessary to produce sleep. His diet has been nutritious but unstimulating. Temperature and pulse normal.

January 23. Patient can open and shut his hand. Hand still swollen; can move his leg, which is also considerably swollen. Has less pain in the head. Three grains cinchonidia four times daily. Carbonate of ammonia continued; cough nearly gone, expectorates only in the morning. Temperature and pulse normal.

February 1, 1885. Patient sat up in the chair for the first. Can turn himself in bed. Draws up his leg and can open and shut his hand. Is unable to stand or grasp anything with his fingers. Has some pain in his head occasionally, but does not complain of it so much. Galvanism commenced to-day from the knees to toes for fifteen minutes. Has no feeling of the battery and there is no response in the muscles. Has more feeling in the hand. Can just feel a sensation in the hands from a strong current. Carbonate of ammonia and cinchonidia continued.

February 6. Galvanism has been used every day for fifteen minutes at a séance. The extensor muscles respond to the galvanic current, also the muscles of the hand and fingers. Is able to walk a few steps from the bed to the chair with assistance. Carbonate of ammonia and cinchonidia continued.

February 12. Patient improving. Can walk by the aid of crutches across the room. Some pain in the head occasionally, but it is momentary. Carbonate of ammonia omitted. Strychnine 1-40th grain three times daily, gradually increased to 1-20th, with the syr. lacto-phosphate lime. Galvanism continued and used every day for twenty minutes. Is improving in walking and can place his hand upon his head. His foot is considerably swollen, and is now kept bandaged with a ribbon roller in the daytime, removed at night. Is able to eat with his paralyzed hand.

February 24. Patient has for the past few days walked across the room without crutch or cane. Leg drags yet considerably, but he notes the progress day by day. His leg and hand are less swollen and have a more natural appearance. Has a very fair appetite, but is very careful about over-eating, especially at night. Reads the daily papers, but is not able to do so for any length of time, as it causes pain in his head. His head is much better balanced, and he is not so nervous and irritable, but there is still marked nervous excitability when first rising from the chair or attempting to walk. His improvement is noted not only by his family but by visitors.

March 1. Has omitted all medicine and discharged his physician, though he still uses the battery once or twice daily. His head is clear, he sleeps well at night, is not disturbed by dreams, and is improving gradually day by day.

April 13. Patient drove out himself to-day; uses his cane when walking in the house. Is unable to walk out-doors yet, as his leg drags considerably and he becomes weak after much exertion.

May 1. Patient walks as usual, but his leg drags considerably when used beyond a certain amount. He rides around his farm in the wagon, and his general health seems excellent. He uses his paralyzed hand when walking with the cane.

May 15. Called to see the patient to-day, and found him reading the daily paper. He had just completed his circuit on the farm, partly walking and partly riding in the wagon, and on his return had driven unaccompanied a distance of a mile for his mail. On asking him to walk was surprised to find that the flexor and extensor muscles of the leg acted perfectly, while the weight of the limb seemed to be the greatest hinderance to walking. He is unable to walk any distance without the cane, but with it he walks almost perfectly. The foot is still swollen, and is kept bandaged with a rubber roller. He is still unable to wear a boot or shoe but wears a heavy slipper. The progress in his case briefly noted is as follows: The third week the paralytic symptoms commenced to subside, the fourth week was able to draw up his leg and use his arm; the eighth week, he walked across the room without the aid of crutch or cane. The arm was the first to recover, and at present is as useful as before.

CASE II.—John P. W., aged 55, American, contractor, has always led an indolent life, and at times drank largely to excess. A man who is old for his years; of a very bilious temperament, and a confirmed dyspeptic. Suffers greatly from gaseous distension of the stomach and bowels, and his breath at times is very offensive—a large, fleshy man of 230 lbs. Was taken November 11, 1883, with dizziness and partial paralysis after eating a very hearty meal. There was also vomiting and some diarrhœa, and this was followed by gastric fever attended by typhoid symptoms. Albumen and casts in the urine. This sickness lasted six weeks, at the end of which time albumen and casts disappeared in the urine and there remained a very unsteady gait in walking, loss of memory, and an unbalanced state of mind, twitching of the left lower eye-lid and slight dilatation of the left pupil. This state of things perfectly incapacitated him for business, and his mind has varied, sometimes rational and of good memory, at other times irrational, using often foolish expressions, and forgetful of dates, days of the week or month. This state of affairs continued until April 15, 1885, when on rising in the morning and attempting to go to the breakfast-table, he was able to walk but a few steps, although he had previously dressed himself. He could move his leg and his arm after sitting in the chair. Had considerable pain in his head, face flushed, tongue drawn to the left side. He could not speak intelligently and in the afternoon of the same day could not be understood.

I saw him April 16 at 3 P. M.; he could not use his paralyzed side, tongue inclined to the paralyzed side, mouth drawn to the sound side, was very sleepy and could articulate but a few words. Skin yellow and tongue coated with a yellowish fur, pulse 80, very full and intermittent, temperature 97°. Gave 10 grs. calomel with 5 grs. each of pulv. rhei and sodii bicarb., to be followed by another dose in four hours if it does not operate; also bromide potash gr. xv. and fl'd ext. ergot m. x. every two hours.

April 17. Bowels moved very freely, tongue dry, pulse not as full as before, 80, temperature 100°. Inclined to sleep, and mind bewildered, urinary secretion free. Urine examined, contained granular and hyaline casts, one-third albumen, specific gravity 10.30, also a number of rhomboid crystals of uric acid.

April 18. Gave Tr. aconite gtt. 1, with five grs. potass nit. every two hours. Bromide potassium twenty grs. with twenty drops fl'd ext. ergot three times a day.

April 19. Pulse inclined to be feeble, aconite omitted; complexion quite yellow. Gave phosphate sodium, 15 grains in ℥ss infusion dandelion, every four hours, also 1-10 grain calomel sprinkled dry on the tongue every six hours.

April 20. Bowels have moved so many times the phosphate sodium was omitted, and infusion digitalis ʒij every four hours substituted. Arterial tension disappeared, tongue still dry, mind clear, water of better color.

April 21. Temperature 99¾°, pulse 84, tongue coated and inclined to be dry, mind much confused, digitalis omitted, phosphate sodium substituted, 15 grains three times daily after meals, 2 grains quinine four times daily.

April 23. Temperature 99¾°, pulse 78, tongue moist, seems better, moves the arm across the breast, draws up the leg; quinine 2 grains four times daily, phosphate sodium 15 grains three times a day as before.

April 24. Temperature 99¾°, pulse 84, tongue beginning to clear, mind is clear, and he sleeps better at night, but is inclined to talk and wander in his conversation.

April 26. Pulse 76, temperature 97°, tongue almost clean; can move the arm to some extent and begins to draw up the leg.

Carb. amm. gr. v. in ℥ss liq., acet. amm. three times a day after each meal, and 2 grains quinine three times a day before meals.

May 3, 1885. Patient sat up to-day for the first; can use his hand slightly in eating, draws up the leg, which has more power than the arm. The flexor muscles of the hand are inclined to be rigid, tongue clean, appetite unsatisfied; food is given to him frequently which is nourishing yet unstimulating; drinks large quantities of milk, mind wanders and he talks incoherently, though he understands direct questions that are asked him and answers them properly. Galvanism used to-day, but it is unable to make an impression on the paralyzed muscles. Carbonate amm. still continued, quinine omitted; urine still contains albumen, a trace; specific gravity 1020; under the microscope contains epethelium from the pelvis of kidney, hyaline casts and crystals of uric acid. Continue the carbonate of ammonia 5 grs. and a pill of pulv. digitalis, squill, aa gr. i., corrosive sublimate gr. 1-24; one before meals, carb. amm. gr. v., one hour after eating.

May 9, 1885. Patient walked with assistance and his cane from the bedroom to the dining-room. Remembers nothing of his previous sickness ; his mind is clear, talks more rationally than at any time during his sickness, and this has been observed for the past two days.

May 15. Patient walked with assistance to the water-closet, a distance from the house about fifty yards, and back ; sits up all day in his chair, mind seems clear and he talks rationally, has some little difficulty in pronouncing his words, tongue slightly turned to the paralyzed side, is unable to whistle, cannot grasp anything firmly with his paralyzed hand, and cannot walk without assistance, but there is a decided improvement ; muscles respond to the battery, and he is able to cross his paralyzed leg across the sound one, and to put his hand upon his head. His foot is swollen and it is of a bluish hue, left eyelid twitches, and there still remains some dilatation of the pupil.

The patient sat up the 18th day of his sickness, and on the 21st walked from his bedroom to the dining-room.

The advantages I claim for the carbonate of ammonia in the treatment of cerebral hemorrhage, thrombosis, and embolism are as follows :

1st. As a diffusible stimulant to the general circulation, relieving the anæmia which is present in the brain, increasing the cutaneous circulation, and inducing perspiration—relieving in this way intercranial pressure.

2nd. By its direct action in dissolving the clot. The only agents which possess this property are the alkalies, and the most effective of these is ammonia.

3rd. In œdema and congestion of the lungs, so often seen in apoplexy, the use of this salt will often relieve the existing condition, partly by its stimulating action on the terminal capillaries, and also by its expectorant action on the broncho-mucous membrane.

4th. By keeping up the alkalinity of the blood, and preventing further thrombosis.

I do not claim this drug as a specific, but only an auxiliary to other remedies. In the treatment of a case of cerebral hemorrhage the following would seem to me the order of treatment.

1st. The prodromal symptoms which threaten an attack of apoplexy by prompt venisection and catharsis.

2nd. To relieve the period of reaction after paralysis has taken place by arterial sedatives, preferably aconite.

3rd. To remove the exudation and all retrograde changes in the clot, anæmia, pulmonary congestion and further thrombosis by the free use of carbonate of ammonia.

4th. To support the system by nourishing yet unstimulating diet, and by the use of medicines which nourish the brain tissue, such as syr. lacto-phosphate of lime, cod liver oil, and the phosphide of zinc.

5th. To increase the muscular development by massage-frictions, electricity and strychnia.

The carbonate of ammonia should never be given in cerebral hemorrhage until the period of reaction has fully taken place, say from ten days to two weeks.

It should then be given continually for at least a month or more, or until the retrograde changes in the clot are accomplished.

In thrombosis and embolism if the diagnosis can be clearly made it should be given at once.

The dose used was 5 grs. three times daily in ℥ss. of the solution liquor ammoniæ acetatis.

There is one class of cases in which the carbonate of ammonia has not acted well in my hands, viz., cerebral hemorrhage associated with interstitial nephritis and hepatitis. In these cases I have had good results from the phosphate of sodium, 20 to 30 grs. three times daily, in the infusion of dandelion given after meals, and small doses of corrosive sublimate, 1-24 gr. three times daily before each meal. I have sometimes combined it in a pill with digitalis and squill.

Mr. President and Fellows of the Association: This plan of treatment that I have pursued in these cases has been novel to me. I have often wondered if something could not be done to hasten, as it were, the absorption of the clot, instead of trusting it to nature. Most of our text-books remain silent on the subject. I have been led to adopt this line of treatment by a perusal of Dr. Bartholow's work on the *Practice of Medicine.* Although I have only two cases to bring forward endorsing this method, yet I am fully convinced it is the treatment to be adopted in old people especially suffering either from cerebral *hemorrhage*, *embolism*, or *thrombosis.* It has certainly thus far proved in my hands, more successful than the expectant mode of treatment. The family are satisfied that you are doing something, and your visits are not entirely devoted to sound advice but show that you have still confidence in your remedies.

In conclusion, Mr. President and Fellows of the Association, permit me to read you a letter recently received from Professor Bartholow, which will perhaps convince you more of the utility of this treatment than my paper.

Dr. R. C. Van Wyck,
Hopewell Junction,
Dutchess Co., N. Y.

1509 Walnut Street,
Philadelphia.

Dear Doctor: I was much interested in your letter. The topic you discuss has always occupied me largely, and I have had the most signal proofs of the value of that plan of treatment.

In one class of cases, especially, have I seen most admirable results; the cases of thrombosis of cerebral vessels due to *chronic arteritis.* These conditions are very common in men of advanced years, are accompanied by characteristic symptoms in the mental sphere, and in motility and sensibility.

Embolism of the brain, secondary to lesions of the cardiac valves, is another condition in which the same treatment is very effective.

That your experience is conformable to mine is very gratifying to me, and

I am much pleased to learn that your purpose appearing in a paper on this topic. I do not doubt your effort will be entirely worthy. With thanks for your kind allusions to my works, I am, my dear Doctor, Very truly,

ROBERTS BARTHOLOW.

ARTICLE IV.—ON THE EPIDEMIC OF MALARIAL FEVERS AT PRESENT PREVALENT IN SOUTHWESTERN NEW ENGLAND. HISTORICAL AND ETIOLOGICAL. By RUFUS W. GRISWOLD, M.D., Rocky Hill, Conn.

In the consideration of the subject herein involved, I propose to speak, first, of the *progress* of malaria in New England, and then of its *origin*. My reason for this is that a satisfactory examination of the matter of cause is so vitally connected with the fact of its continued territorial diffusion in well-marked directions, that it can be much better made than by an attempt at discussing the cause in advance of such a knowledge of its progress as may be obtained.

How far back in point of time it may be best to go in considering what is called the epidemic of malarial fever now prevalent in New England, is matter of doubt. Exactly when the present epidemic began is uncertain. As a matter of convenience, but purely arbitrarily, the information collected by the writer in 1881 (1), as to its appearance in the valley of the lower Connecticut, by Dr. C. W. Chamberlain, secretary of the Connecticut Board of Health, ( ) and by Dr. G. H. Wilson, member of the Health Board, (3) the two last covering all the towns in the State, and the latter extending into Rhode Island and Massachusetts, does not ante-date the year 1860. Whether we should consider the earliest of these dates as bounding the present epidemic, is questionable, for, as a matter fact, the information collected by Dr. Chamberlain, alluded to above, with that obtained by Dr. Henry Bronson, of New Haven, ( ) by Dr. A. W. Barrows, of Hartford, (5) and by Dr. O. W. Holmes, of Boston, (6) serve to show that malarial diseases have scarcely been entirely absent from southwestern New England at any time since the earliest settlement of the region by the whites, that at some periods they have been considerably diffused, and that the line between the outgo of one epidemic and the income of another is not easily determined. Thus, according to Josselyn, there were indigenous cases of intermittent fever about New Haven in 1671. Hubbard's History of New England (1678) mentions the same. Cotton Mather's Magnolia speaks of ague and fever at Watertown, Mass., in his day. An appendix to some historical discourses of Rev. Dr. Bacon, in 1658, speaks of agues and fevers about New Haven and in Norfolk, and in Fairfield, Conn. It is believed that intermittent fever was in the towns east of New Haven along the Sound, to as far as New London, during parts of the seventeenth century, though the evidence of it is not so satisfactory as might be desired. In 1725 to 1730 malaria prevailed in Litchfield, Conn.; in 1750 there was an endemic fever in Bethlehem, Conn., believed to be of a malarial type. In 1796 and later malarial fevers were common in New Milford, and earlier than this in Salisbury, Colebrook, and Roxbury, towns of western Connecticut. In 1793, or 1794, Northampton, Mass., is reported to have suffered from malarial fevers, and Sheffield, Greenfield, Deerfield,and Hatfield soon after. Malaria was in Sheffield, Mass., in 1796, and from that date to 1820 it existed in the upper valley of the Housatonic in western Massachusetts. (Dr. Wm. Buel, of Litchfield.) In 1811 the trouble is reported as in Greenwich, the extreme southwestern town in Connecticut, and in 1819 in Salisbury, the extreme northwestern town. About 1825 ague existed along the shore towns, from the New York State line east to the Housatonic River, and continued fitfully up to 1832. In 1837, and on to 1843, there were occasional sporadic cases east of the Connecticut River, in New London County, along the Sound shore, in Lyme, at Mystic, and in Stonington. From 1828 to 1832, malarial diseases prevailed largely in Norwalk, in Fairfield County. In New Haven and vicinity there were occasional cases from 1800 to 1810, and from 1850 to 1856 there were a considerable number of cases of intermittent in the same vicinity. Dr. Holmes's dissertation designates Prospect, in Windham Co., Conn., with other towns in the same State, mostly in the southwestern and western parts, as places where intermittent had originated previous to 1836, as also ten towns on the Housatonic and Connecticut rivers in Massachusetts, six places in eastern Massachusetts, two in Rhode Island, one in New Hampshire, and two in Maine. There were sporadic cases in Sharon (northwestern Connecticut) in 1856 and on. Dr. Knight, of New Haven (now deceased), stated that malarial diseases had never wholly disappeared from the lower regions of the Housatonic, in southwestern Connecticut.

I have given these points in relation to the existence of malarial troubles in southwestern New England, in various places and at various times, down to the beginning of what is sometimes called the present epidemic, partly for the purpose of showing that the specific date of its beginning is difficult to determine, even if it exists. The account of the different appearances of ague in different towns might be indefinitely extended; but the relation of other dates in addition to those given would not materially add to the basis of observation for a consideration of the question of the origin of malarial diseases; and as the consideration of the question of *origin* is the chief practical matter, what I have noted is sufficient for the purpose desired.

For the main intent of this article, I accept the term "malaria" as implying that undetermined potency producing the general class of fevers, of which intermittent is the most pronounced type, and in which class is included various other diseases that have been very generally regarded as the results of paludal poisoning. In the absence of such specific knowledge as would enable us to give the class a more definite and satisfactory designation, the term answers as well as would any other equally arbitrary.

In the attempt to wrestle with the question of *cause*, and as preliminary to it, I propose to look at the progress of the present territorial spread of the disease from the southwestern portion of Connecticut, over that State to the north and east, or adopting one point of direction, to the northeast, into Massachusetts on the north and northeast and into Rhode Island on the east. For the purpose of doing this in a manner easily to be comprehended, and as illustrating the extension of the trouble from one section to another as regards time, it will serve a good purpose to divide the State of Connecticut into the four regions of the Housatonic, the Quinnipiac, the Connecticut, and the Thames, upon an irregular line of the water-sheds of the separate regions—generally natural, but to a degree arbitrarily. If we then draw a line through the centre of the State from west to east, we shall have eight sections, not equal in territorial extent, but so constituted as will enable the reader to understand generally the geographical progress of malaria over the State in the directions we have endeavored to indicate. Region one of our division is the southwest, region two, the northwest section, being generally the Housatonic system, of which the Naugatuck is part; region three is the Quinnipiac or New Haven section, and region four the section north, in which is the Farmington River, a tributary of the Connecticut; region five is the valley of the Connecticut north to the central line of the State; region six the continuation of the same valley north to the Massachusetts line; region seven is the section of the Thames north to the central line, being the southeast corner of the State; and region eight is the northeast corner, bounded north by Massachusetts, and east by the northern half of Rhode Island. If, now, we take the arbitrary date of 1860 as the starting-time for the subjection of the whole State to the malign influence of the present malarial epidemic, we shall find that ague and fever, with its congeners, were in one town in region one, and in the south part of that region, in 1860; that it began in region one in one town in 1861, and in two in region three the same year, these points also being in the extreme north part of the State; that in 1862 it appeared in two towns in region one, one in region three, and one in the very south part of region two; that in 1863 it entered two towns in region one and one in region three; that in 1864 it had commenced its work in one town in region one and in one in region six; that in 1865 it opened out in two towns in the north part of region one and in one in the center of region three; and in 1866 at one point in region three; and in 1867 in an adjoining town of the same region, and at another point in the same region farther north; in 1868 in one town in region one; in 1869 in two towns in region one, one in region three, and one in region five; in 1870 in four towns in region one, and three in the north part of region five.

Stopping at this point to consider what had been accomplished in the progress of the trouble in ten years, we find that it had compassed territorially but about one fourth of the State, and that this was mainly the southwest corner of it. Saving an occasional and rare isolated case, such as one or two reported in the north part of region five in 1854 and 1857, in the south part of region six in 1864, in region six in 1866, and in region four in 1870, and which were only the advanced guards of the invading host that for the decade had taken full possession of the population of the southwest quarter to the extent at some points of half the inhabitants, malaria could not be said to be present in the other three-quarters of the State, and at *no* point in those other three-quarters did it at all *prevail.* But in 1871-2-3-4 malaria had well begun in four towns in region one, in six in region three, in two in region five, and in six in region six, in the south part ; in 1875 in three towns in the north parts of regions one and three ; in 1876 in the north parts of other towns in the same regions ; and in the center of regions four and six, and in the south part of region five in the Sound towns west of the Connecticut River ; in 1877 it had extended north from the southwest corner of the State into the five north towns in region one, and still farther upward along the Housatonic River and next to the New York line into three or four towns in region two, and over the Connecticut line into Sheffield, Mass., the extreme southwest corner of that State. Eastward along the Sound, it passed the Connecticut River at its mouth, this being the southeast corner of our region five and twenty miles further east than the towns higher up the river to the north, where it had begun earlier. In 1878 and '79 it covered over what little was left in region one, in its extreme northeast corner, some of the remaining towns to the north in region two, and into Great Barrington, Lee, Lenox, and Lanesboro, Mass., in Berkshire County ; into the remaining towns of region five, fifteen miles from the Sound and west of the Connecticut, and north into the balance of region six to the north line of the State, and into Massachusetts at Agawam and Springfield. In 1880 it began to appear in the balance of the towns in the northwest part of Connecticut, in region two, in Litchfield County ; also in the little then left in region six, in the north part of Hartford County ; was in Massachusetts, at the west in North Adams and West Stockbridge, and at two points east of Springfield and near the Connecticut line, viz., Longmeadow, and at Douglass, in the south part of Worcester County ; to the east and northeast it began in region seven, below New London, and farther north at four points in region eight, in Windham County, in the south and west sections ; and in three towns in the southwest part of Rhode Island. In 1881 it was developed in the town of Thompson, Windham County, in the extreme northeast of Connecticut, which is also the extreme northeast town of our region eight, having jumped over several towns to the west, south, and southwest in Windham County. In the same year it appeared in twenty of the towns of Rhode Island, also at some points in the Thames region of Connecticut above Norwich ; also at the north, in other towns in western Massachusetts ; and in 1882 in most of the remaining towns in Connecticut, in our region seven, next to the Rhode Island line. Thus, up to this latter date nearly the whole State of Connecticut had been invaded, the region exempt being the larger part of Windham County, some portion of which has not been afflicted up to the present time.

In generalizing from this somewhat detailed account of the geographical progress of the potential factor of ague and fever, it may be correctly stated that it was actively engaged in the southwest quarter of Connecticut from the assumed date of starting in 1860, within about, or less than, ten years ; that it was vigorously at work in the south half of this quarter about five years earlier than in the north half of it ; that only after the lapse of ten years did it pass beyond this quarter (being the regions of the lower Housatonic and Quinnipiac) into the Connecticut valley region, in the center of the State; that it was still three to five years later before it finally settled down in the extreme lower Connecticut River valley, this section being twenty miles farther east than the same valley in the center of the State; that it was about twenty years from the time of its severe prevalence in the southwest quarter of the State before it began to prevail in the northwest and southeast quarters of the State, and that it is still unplanted to any great extent over the east half of the northeast quarter. Putting it in another form, it was twenty years from the time malarial diseases were extensively raging in southwestern Connecticut, before the trouble was located at the north in western Massachusetts, and at the east in southern Rhode Island, these points being about sixty to seventy-five miles distant each from the south centre of Fairfield County; and it has not yet fully possessed northeast Connecticut, which is, say, about ninety miles from the same point of the County of Fairfield.

This matter of territorial progress is of printed record from carefully collected returns, and is not to be ignored in a reasonable consideration of the etiology of the intermittents and other malarial diseases. It is, however, to be understood that this acknowledged geographical progress has not been regular as to its monthly dates in time nor as to its territorial advance. It has not gone straight on in any direction as a man might travel from town to town, but rather as the bird might fly, leaving its roost in the morning to pass over the country, lighting ten, fifteen, or twenty miles distant, doubling about on its course from day to day, zigzaging, erratic, and seemingly purposeless in its flight—ten miles easterly yesterday, five northwesterly to-day, fifteen northwardly to-morrow, and twenty southwesterly the next day; but putting all the days together, edging either north, northeast, or east, in due course of time.

To the end that the reader who may not be thoroughly familiar with the locations of the towns in Connecticut may obtain herefrom a more definite comprehension of the general geographical extension of the ague influence, and at the same time be able to note its erratic appearance in point of time in the different parts of the State, the following detail may be of service.

There are eight counties in Connecticut. Fairfield County is at the southwest, bounded south by Long Island Sound, west by New York State. Litchfield County lies generally north of Fairfield, bounded west by New York and north by Massachusetts. New Haven is east of Fairfield, bounded south by the Sound, north partly by Litchfield and in part by Hartford county. Hartford is east of Litchfield, and north of New Haven and Middlesex, and bounded at the north by Massachusetts. Middlesex is east of New Haven, and south of the east part of Hartford, and bounded south by the Sound. Tolland is east of Hartford, north of the west part of New London, its north boundary Massachusetts. New London is east of Middlesex, south of Tolland and Windham, with the Sound south, and the south half of Rhode Island its east boundary, being the southeast part of the State. Windham County is north of the east two-thirds of New London, east of Tolland, south of Massachusetts, and west of the north half of Rhode Island, being the northeast eighth of the State. Fairfield, Litchfield, and the west part of New Haven counties, speaking generally, are drained into the Sound through the Housatonic, of which the Naugatuck is a large tributary. The balance of New Haven County is drained through the Quinnipiac and some smaller streams emptying into the Sound east of that. Middlesex and Hartford drain by the Connecticut, which divides the State nearly in its centre, extends north through Massachusetts, and becomes the line between New Hampshire and Vermont. New London, Tolland, and Windham drain through the Thames, which about twenty miles from the Sound begins to divide up into branches to the northwest, north, and northeast. Having this knowledge of the geographical situation of the different parts of the State and of its water drainage, our classification will be comprehended.

Points of Ague Attack.

1860. Southport, Sound town, Fairfield County.

1861. Fairfield, Fairfield County, Milford and Orange, New Haven County—shore towns.

1862. Darien, Bridgeport, shore towns in Fairfield County, both west of Fairfield town; Hamden, in New Haven County, north of Orange, a part of New Haven town lying between.

1863. Some parts of New Haven, and the north part of Hamden, ten miles north, in New Haven County; Bethel and Redding, in the western part of Fairfield County about twenty miles from the Sound.

1864. New Haven City, Sound town, but up New Haven Bay.

1865. North Haven and Wallingford, to the northeast of New Haven; Cheshire, north of Hamden, and the south part of Meriden, northeast of Wallingford. Danbury, in the west part of Fairfield County, next to New York line, and thirty or so miles from the Sound.

1866. East Haven, east of New Haven, and Woodbridge, northwest—both in New Haven County, but in its south and southern part, East Haven being on the Sound.

1867. South part of Norwalk, in Fairfield County, on the Sound, next east of Darien, but about fifteen miles west of Bridgeport and Fairfield. North part of Cheshire, twenty miles north of New Haven.

1868. North part of Norwalk, Sound town, in Fairfield County. North Haven, above New Haven, and Derby, twelve miles west-northwest in New Haven County, adjoining Fairfield.

1869. Wallingford and Meriden, in New Haven County, twelve and eighteen miles northwest of New Haven.

It will be observed that up to this date the malarial influence had not been manifest beyond the southwestern corner of the State, except in a rarely occasional case reported in the central parts of Hartford County—one in Rocky Hill in 1857, one in Hartford in 1864, one or two in Wethersfield about the same time, one farther north, in Enfield, in 1866, and one in Colchester in 1869, the northwest corner of N. London Co., some fifteen miles east of the Connecticut River, and in the centre of the State. It is to be understood that these are supposed to be *indigenous* cases—native to the locality where they happened, and by some evidence in the habits of the individuals in whom they occurred capable of being demonstrated as such. If it should be thought that cases of malarial disease may have occurred in other parts of the State, previous to this time, without being noted and classed as such because of faulty diagnosis, I beg leave to say that the practitioners of Litchfield County to the north, of Middlesex County to the east, and of Hartford to the northeast, being posted as to the appearance and the raging prevalence of ague and fever in Fairfield and New Haven counties, and being kept informed of its spread year by year, into new localities, were all the time on the watch for its invasion of their own section; and, being guided by some practical as well as theoretical knowledge of the diffusion of epidemic diseases, were year by year expecting its advent into their drives, and were not likely to mistake it when it came, or to overlook the first demonstrations of its appearance. And I may be allowed to add, that the physicians of New London, Tolland, and Windham counties, being kept well informed from 1860 to 1877 that intermittent fever and its cousins of kin were gradually advancing through the State in their direction, were not asleep to its characteristic phenomena immediately on its earliest appearance. To intimate that the medical brethren of Massachusetts, from the hills of Berkshire to Boston Bay, and of Rhode Island, from Westerly to Cumberland or Tiverton, have so much professional stupidity that they would overlook the existence of an appreciable amount of malarial disease in their midst for years, will, upon reflection, be acknowledged as an insult to their professional acumen. They have noted its first appearance with them so far as it has come, and I have been moved to say this much at this point, from having noticed that in a recent number of the *Journal of the American Medical Association*, there is a sort of symposium on the etiology of ague, by Drs. Sternberg, Woodhull, and Smart, all of the army—the papers having been read before the Association—in which one of the writers, in an attempt to bolster a theory of cause, puts forward the idea that in many localities there exists a deal of malarial rheumatism, malarial diarrhœa, malarial dysentery, and malarial what-not, unrecognized as such by the men who treat the cases there. This notion is repudiated; not that the most sagacious physician may not sometimes be at fault in diagnosis, but that when diarrhœas, dysenteries, rheumatisms, etc., of malarial origin, *do* exist to any extent, the peculiarities of the malarial type will be so manifest that ordinarily acute observers will take note of them as giving evidence of the specific influence. Further than this, it is to be understood that the earliest manifestation of malarial disease in this invasion of New England, in the different localities it has from year to year occupied, has been in the form of regular intermittent—shake, fever, perspiration, in typical sequence—and repeated with characteristic uniformity when not interfered with by medical treatmetn; and the phenomena of a regular ague attack are so specific and positive in feature as not to be easily resolved into any other disease, by ever so stupid a diagnostician.

Returning to our classification: ague appeared in 1870 at New Caanan, Wilton, southwest part of Fairfield County; Middletown, Portland, Cromwell, thirty-five miles from the Sound, on the Connecticut River, in Middlesex County, and in Wethersfield, in south part of Hartford County, twelve miles farther up the river. This appearance in Portland, opposite Middletown, was the first real crossing of the Connecticut River.

1871. Stamford, Westport, southwest part of Fairfield, on the Sound, and Huntington, in the east part, some twelve miles from the Sound; Middlefield, north part of Middlesex; Southington, Berlin, New Britain, Newington, in line, southwest part of Hartford County; and South Glastonbury, east of the river, south part of Hartford County, and next north of Portland.

1872. Weston, middle of Fairfield; Seymour, Oxford, Birmingham, half-way up New Haven County, on the Housatonic, and bordering on Fairfield; Haddam and Durham, midway of Middlesex; Rocky Hill, Hartford, and East Hartford, the latter east side of the Connecticut, but on the river.

1873. Easton and Trumbull, in centre of Fairfield; Naugatuck, in central New Haven, Old Saybrook and Essex, in Middlesex, on and next above the Sound; West Hartford, in Hartford County.

1874. Ridgefield, west of the middle of Fairfield; Trumbull, in easterly part; Burlington, west part of Hartford, and South Manchester in southeastern part, eight miles from the Connecticut; East Haddam, in Middlesex, east of the river.

It will be seen that only in these last three years had the trouble fairly crossed the Connecticut, to the east and northeast, and that only up to 1874 had it got beyond and away from the river for eight miles, and this but at a single point.

1875. Greenwich, the extreme southwest town of the State, and west of the points of first attack in 1860 and '61; Beacon Falls, in the middle of New Haven County, and Roxbury and Woodbury, in the very north part; Chatham, Chester, and Westbrook, in Middlesex; Avon, South Windsor, and East Windsor, in Hartford; and Torrington in Litchfield County—this being the first settlement of record in the northwest county of the State.

1876. Southbury, Waterbury, and West Oxford, at different points in New Haven County; Sharon, in the extreme west of Litchfield; Canton, East Granby, Warehouse Point, Manchester Centre, in Hartford County; Clinton, Saybrook, on the Sound, in New Haven; Lyme and East Lyme, southwest towns of New London County, east of the river, the first crossings low down on the Connecticut, this point being about twenty miles farther east than Portland, where ague appeared six years before for the first time east of the river, except in one or two isolated cases. From this latter point, Portland, opposite Middletown, both of which had ague in 1870, the river runs southeast to the Sound at Saybrook and Old Lyme, and then enters salt water about twenty limes farther east than it would do if going direct south from Middletown.

As illustrating the erratic character of the appearance of intermittent for the first time at separate points, and as showing the skips made in the advance, and the occupation of jumped-over territory at a later date, it may be stated that Guilford, Madison, and Clinton lie in succession on the Sound, the first about twelve miles, the second about eighteen miles, and the third about twenty-five miles, *east* of East Haven, where malaria prevailed in 1867, and that they are about twenty, fifteen, and twelve miles *west* of Old Saybrook and Essex, where intermittent began in 1873. Despite the recognized and undisputed *general* advance east, northeast, and north, obvious through all the history of this invasion of New England from the southwest, these territorial skips have been manifest and frequent. On first thought this may appear singular; we may admit that it *is* singular; but the careful student of the progress and diffusion of epidemic diseases of other kinds—yellow fever, cholera, etc.—which sometimes cover-in extensive reaches of country in their march, or of those more circumscribed visitations, confined in the circuit of a few miles, will readily discover that this fact of erratic and zigzag extension applies to them all alike. But, in order to bolster the theory of local ague production, this phenomenon of local appearance at an advanced point, leaving some miles, less or more, of untouched territory behind and intervening, is quite commonly put forward as a potential if not convincing argument. In the celebrated case tried before a special term of court at Pittsfield, western Massachusetts, October, 1882, the town of New Lenox vs. The Smith Paper Company, the pond of the Company having been indicted as a nuisance producing ague and fever, it was in evidence that when intermittent began about that pond in 1878, there had been no cases of malarial disease within sixteen miles below it. This was supposed to be a a strong point for the support of the prosecution. At the time of the *indictment* it had not transpired that there had been any cases above the region of the pond; but before the time of *trial*, the same malign factor that had instituted malarial disease there had extended itself miles farther north into the hill towns of Berkshire County, and in four years after had covered-in the whole section of western Massachusetts, and edged itself forward beyond the line into the State of Vermont (7). The evidence put before the Court, of this further extension of the disease beyond and entirely away from the influence of the pond, and beyond the reach of any potency out of any pond; and the further evidence of the fact of many other similar skippings of territory, with appearance of ague beyond the skips at points where no ponds or other like supposed faulty conditions were known to exist or could be discovered, destroyed the weight of argument built up by the prosecution on that particular skip-over of territory.

Returning again to our detail, we find that in 1877, Monroe, Newtown, Brookfield, and also New Fairfield, in the north part of Fairfield County were attacked; Bridgewater, New Milford, and Kent, in the south and southerly parts of Litchfield, and Salisbury and New Caanan, in the extreme northwest part, next to Massachusetts, and that the advance crossed the State line into Sheffield, this being the first recorded invasion of Berkshire County, and the first also of Massachusetts. In Hartford County, Connecticut, Suffield and Enfield, next to Massachusetts, and Glastonbury, at the southeast part of the county; Old Lyme, on the Sound, in Middlesex, the first town east of the mouth of Connecticut River; and Coventry and Columbia, in Tolland, the first of record in that county.

1878. Greenwich Town—again in the extreme southwest corner of Fairfield; Caanan and Norfolk, north part of Litchfield, and north farther on this line of advance to Lenox, in Massachusetts. Hartford, Granby, Simsbury, in the north part of Hartford—and north on this line to Agawam, the first town in Massachusetts, and to Springfield; Somers and Willington in Tolland, Killingworth, in Middlesex; Lebanon, at the extreme north of New London, and Waterford, at the extreme south, on the Sound, the next town to New London, etc.

1879. Cornwall, in Litchfield; north into Massachusetts to Great Barrington and Lanesboro; up the Connecticut into the same State to West Springfield, Chicopee, Northampton, Hadley, Hatfield, Brimfield, and Dudley. In New London County, Bozrah and Montville.

1880. Litchfield, Warren, Goshen, Winchester, in Litchfield County; north to Lee, West Stockbridge, North Adams, in Berkshire; Southwick and Long Meadow, in Massachusetts, north of Hartford County; Tolland, Stafford, Mansfield, in Tolland County; Sprague, north part of New London; Windham, southwest corner of Windham County, and first appearance in that county.

Up to this time we find that Connecticut had become well possessed except that part of New London east of the Thames, and about three-fourths of the northeast part of Windham. But in this year, skipping over those portions of territory, intermittent found lodgment in Rhode Island at the east, and at Douglass, Mass., at the northeast.

1881. Norwich, in New London County; Thompson, extreme northeast town in the State—leaving twenty to twenty-five miles of untouched territory behind. By this time, at the west, intermittent had appeared as far north as Williamstown, the extreme northwest point of Massachusetts, as well as in many other places in Berkshire County, and had even gone northward to a slight degree into Vermont, and up the valley of the Connecticut through Massachusetts into Vermont and New Hampshire, and east further into Rhode Island.

1882. Groton, in New London County; Stonington, North Stonington, Voluntown, all next to Rhode Island in the same county; Plainfield in Windham County, just above. The appearance in these towns, two years later than it began in the south part of Rhode Island east of them, illustrates another of the skips of territory before alluded to. The backward reach indicates a return wave from a lodgment made in advance of the general progress. This indication may be an actuality. To illustrate: The invasion of Stonington, North Stonington, and Voluntown in 1882 may have been from a diffusion to the west and northwest from the places of encampment made in 1880 and 1881 in the southern part of Rhode Island. The invasion of Clinton, Madison, and Killingworth in 1876 to 1878 may have been a return wave west and northwest from the settlement of the disease at Old Saybrook in 1873. The invasion of the northwest part of Hartford County in 1876 to 1878 may have been from the north part of Middlesex and the south part of Hartford, from the establishments made at those points in 1870 to 1873—the current of travel being in that case to the northwest. This notion is not only plausible, but reasonable; and there is no especial indication appearing to the contrary. Very true, this would have been a current in opposition to the general direction of advance; but these erratic movements have marked the entire progress of the epidemic. The three counter-movements mentioned are perhaps the most apparent ones on the map of diffusion; but there have been many small ones of the like general character; though none of them have turned aside the larger front of the main body in its general direction.

1883. Details of the spread of malarial influence during the last year in northeast Connecticut and in Massachusetts and the States north have not been obtained; but generally it may be stated that before or during this year about all the towns in western Massachusetts began to have ague and fever—this is all of the four counties of Berkshire, Hampden, Hampshire, and Franklin, which cover the territory from the New York line east to about twenty to twenty-five miles east of the Connecticut River. The fifth Connecticut Health Board Report states that all the towns in these four counties had begun to suffer by 1882. I think there may be some doubt of the absolute correctness of this statement; but speaking of the territory generally up to the end of 1883, the statement that it had been fairly embraced in the progress of the trouble will be true. Scattered towns in Worcester and Middlesex counties also were affected in 1882, some cases of intermittent being reported in the secular press as occurring in the neighborhood of Boston in this year. In 1883 other towns in eastern Massachusetts were reached, and there were newspaper reports of the appearance of ague as far north and east as the vicinity of Portsmouth, New Hampshire.

Into Rhode Island intermittent entered at Westerly, the southwest town of the State, in June of 1880. Through the kindness of Dr. Chas. H. Fisher, Secretary of the Board of Health of Rhode Island, I learn that the disease appeared at Richmond and Charlestown, in the same corner of the State, to the east and northeast of Westerly, in Washington County; at East Greenwich, in Kent County; at Cranston, some thirty miles to the northeast of Westerly in Providence County, and at Providence City, beyond Cranston to the northeast; and at Barrington and Warren, in Bristol County, east of the northerly end of Narragansett Bay, in the same general northeast direction from Westerly, during the summer of 1880. In 1881 ague was reported in Hopkinton, north of Westerly, and at North Kingstown, about twenty miles to the northeast, having skipped over the large town of South Kingstown, lying on the Sound at the south and the entrance of Narragansett Bay at the east, and seemingly out of the line of general progress of the disease, in a northeast direction. The same year it began in Woonsocket, Pawtucket, Lincoln, North Providence, Johnston, East Providence and Cumberland, in Providence County, in the northeastern portion of the State, on the same general line of direction, and at Warwick, jumped over the year before. In 1882 ague was reported as for the first time in Smithfield, in Providence County, and in Bristol, east of the bay, the remaining town of Bristol County. In 1883 a first appearance is noted in only two towns, Coventry, in Kent County, and Scituate, in Washington.

It will be seen, from this report, and from a comparison with it of a map of the State, that the portions of Rhode Island left untouched by malarial trouble up to towards the end of 1883, are South Kingstown, before alluded to, at that southeast part of the State that is west of Narragansett Bay, in Washington County; Exeter, in the same county bordering on Connecticut, and mostly off from the northeast line of travel from Westerly; West Greenwich, in Kent County, farther north, and bordering on Connecticut; the west part of Coventry, north of West Greenwich; and then, in succession, Foster, Glocester, and Burrillville, all butting Connecticut, in Providence County, and North Smithfield, next east of Glocester and Burrillville—this territory, from Exeter to North Smithfield inclusive, being the northwest part of the State, and comprising about or rather more than one-fourth of its entire territory; and in addition, all the towns in Newport County—the same lying in and to the east of the southern part of Narragansett Bay, being the southeast part of the State. It will, therefore, be seen that the general line of invasion of Rhode Island has been from Westerly, at the southwest corner, diagonally across the centre of the State to Cumberland, at the northwest corner; and that the portions of territory to the northwest and southeast of this general line of attack have not yet suffered. The southeast corner has not been reached on the east line of extension; the northwest corner, east of Windham County, Connecticut, though draining mostly into another river system, is, in its relation to the extension of the present malarial influence, rather a continuation of the Windham section of country; and as may be seen by reference to our accounts of the trouble in that county, there is still some portion of it exempt in like manner to the northwest part of Rhode Island. It is probable that these hitherto exempted portions of both States will finally be taken possession of by the same mysterious power that has reduced the other sections.

This record of exemption of some of the towns in Rhode Island is subject to this deduction: three towns in the State, namely, Foster and Gloucester in Providence County, and Tiverton, an extreme east town in the State, at the southern part, in Newport County, are marked as having had *imported* cases of ague. Whether or not there is ever any connection between these imported cases and the indigenous ones that occur sometimes not very long after, in the same territory, is not quite certain, though there has been but a meagre amount of medical opinion in the affirmative on that point. But the question of the possibility of contagion, or rather of diffusion, from the individual (if there can be any difference between these modes) has been raised for consideration. Imported cases are not uncommon where the home-bred ones prevail. Circumstances may be such that in a given case you will have no difficulty in determining that it is an immigrant; in another case circumstances may be such that it will be impossible to determine whether your patient brought the latent disease with him or contracted it in your neighborhood. But imported cases, occurring before the appearance of indigenous ones, are certainties. The first case near the New Lenox mill-pond, in Berkshire County, Mass., about which was fought one of the most remarkable malarial lawsuits ever occurring in New England, was an imported case. This was in 1878, very soon after the cases began to be frequent in the immediate neighborhood, among the inhabitants long resident there. There have been worse stretches of the imagination in relation to the causation of ague than would have been necessary in this instance, to assert that all the indigenous ones came out of that importation. The writer, after three months' residence in central Connecticut, in 1854, had, in July and August of that year, three savage attacks of intermittent fever of an unmistakably typical character; but a residence in a part of New York Island the summer before, where fever and ague was common, decided opinion in favor of a latent importation of the disease, especially as indigenous cases in that section, up to that time, were not within the knowledge of the oldest resident. A shadow of doubt was thrown over the opinion in this case by the occurrence in the same neighborhood, three years later, of a positively indigenous one. In the years from 1854 to 1872 I can recollect treating perhaps half a dozen cases of intermittent in my drive, one at a time, in persons but a short time in the neighborhood, the starting-point for which could be traced back to a former residence, not very remote in time, to some malarial district. This sort of experience was common to a good many of the physicians of central and eastern Connecticut; but it has never appeared that ague spread from such cases to other people. The idea of diffusion from the imported case would seem to be put aside by the fact that nowhere in central Connecticut previous to 1870, or in northwestern, northeastern, or eastern Connecticut previous to about 1880, or in Rhode Island before that time, is there any record or knowledge of other cases following an imported one under any such conditions as would justify charging the case of introducing ague and fever to the inhabitants of the parish. There is no reason to believe that southern New England owes to individuals the introduction of ague to its people; there is no reason to suppose that an ague-stricken southern New Englander going hence into central New York, or into northern New York, or Vermont, or New Hampshire, will infect the population he may visit. He may take the disease along with him, but it has not been shown that he can spread it abroad.

It is well to notice of the progress of malaria into or over those towns of Rhode Island which have harbored the trouble, that its course has been after the same erratic fashion as evidenced in Connecticut and western Massachusetts.

Thus, first appearing in Westerly, it left Exeter on one side and South Kingstown on the other in peace, but jumped over, the same season, to Charlestown and East Greenwich in Kent County, and to Cranston and Providence, and even to Barrington and Warren in the northeast part of the State. In 1881 it invaded two towns in Washington County skipped the year before, and was at several points in Kent and Providence counties, south of the points in Providence possessed in 1880, and to the west of Warren and Barrington. Eighteen hundred and eighty-two witnessed similar erratic departures, and the towns exempt even in 1883 illustrate the eccentricity as to local manifestations of the trouble. In short, its conduct in this regard in Rhode Island has been exactly as in Connecticut and western Massachusetts. There is no knowing, from where it is to-day, just where it will put in an appearance to-morrow, except in the matter of the general advance, so clearly indicated through all the years from 1880 on to the present time.

It is a matter of some curiosity, in connection with the first appearance of intermittent in Rhode Island, as to whether or not it came into that State on an eastern line of march, along the Sound from Connecticut, or whether the first advent was in the shape of a special landing, such as *seems* to have been made on the Connecticut shore of Darien and Fairfield twenty years earlier. Indications favor the latter supposition. The first cases reported about the mouth of the Thames River were in 1880, and on the west side. It did not get across that river that year, and perhaps not the next. There is no printed record of the appearance of malarial disease in Groton, opposite New London, at the mouth of the Thames, up to the present time; but I have reliable information that the first cases in Groton were in 1881, considerably away from the river. In the three towns lying along the Rhode Island line, Stonington, North Stonington, and Voluntown, the record of first cases is in 1882, two years after its appearance in Rhode Island, west of North Stonington and Voluntown; and between these towns and the Thames and its eastern tributary, the Quinebaugh, are the towns of Ledyard, Preston, Griswold, and Lisbon, in which, up to the last of 1882, there are no markings of malarial disease. Now, whether all this territory east of the Thames River, to Rhode Island, and north along the boundaries of the two States to the Massachusetts line, was a conspicuous jumped-over region, as has been before spoken of, or whether the Thames River was, up to 1882, the eastern limit of progress along the Sound, and the developments in Rhode Island, fifteen or twenty miles east of the Thames, in 1880, were from a new point of departure there laid down, it is impossible to determine. I call attention to it as one of the features worthy of notice in the history of the progress of the trouble. If this extreme right wing of the advance was a special corps for the subjugation of Rhode Island from its southwest point, then we may conjecture that the invasion of Stonington, North Stonington, and Voluntown in 1882 was by this Rhode Island division, which began its operations in 1880; and Rhode Island may feel relieved of any sense of indebtedness to Connecticut in its acquisition of the undesirable possession of ague.

There is another feature of this worth looking at. It has been remarked that the progress of malaria over Connecticut has been up the streams. Speaking generally, this is true, and it may be true in detail to a considerable degree, but not in the entire. Along with the progress *up* the streams north, there has been a diagonal progress across them through the centre of the State, and an eastern progress across them all, at or near their mouths at the Sound. The diagonal progress across the rivers was first of the Housatonic at Bridgeport, near the Sound; next of the Naugatuck, higher up, then of the Quinnipiac, at South Meriden, about twenty miles from the Sound; then of the Connecticut at Middletown, twenty-five miles from the Sound; and then of the tributaries of the Thames at Coventry, forty miles from the salt water. But in those cases where the tributaries are from the northwest, or nearly west, as is the Mattabesset, which discharges into the Connecticut at Middletown, and of the Farmington from the west and northwest and discharging into the Connecticut at Windsor, it has been thought that the invasion of the regions they drain has been made from the Connecticut to the west and northwest up the tributaries. Malaria was on the Connecticut at Middletown a little earlier than on the headwaters of the Mattabesset to the northwest. It was on the Connecticut at Hartford in 1872, three to five years earlier than in the Farmington Valley region, to the northwest of Hartford, and about the same time as on the east side of the river to the northeast, thus indicating an advance into the Farmington Valley region from the mouth of that river at Windsor. Reasoning from the acceptance of this, we may conjecture that the inroad into the southeast towns of Connecticut in 1882 was up the Paucatuc River, which separates the States at that point, and some branches of which are from the northwest in Connecticut. But this conjecture is open to an uncertainty akin to most of the phenomena manifested about the progress and the origin of malaria generally.

In Massachusetts, to the east and northeast of Rhode Island, I learn (through Dr. A. G. Browning, of Providence) that malarial diseases were present in some places in 1883, and perhaps a *little* earlier. Taunton, next to the northeast corner of Rhode Island, Fall River, southeast from Bristol, with Attleboro, Webster, and Southbridge, are mentioned; with the observation that the advent and history of the trouble is similar to that in Rhode Island and Connecticut.

Coming now to some consideration about the localities in which malarial diseases have appeared, as a supposed effect of the income of the essential potency in its erratic onward movement, or else as having been developed out of some local unsanitary environment, it has been observed that no special kind of environment governs the point of first appearance. In one town the first cases have been in a valley, and in the next upon some hill-top. At some points malarial diseases have begun along the course of some river or brook, or about some reservoir or swamp, and have been supposed to be caused by something originating in or at least proceeding out of them; but at other points the highest land in the vicinity, quite removed from any water connection, has been the first point of the appearance of the trouble. One-third of the towns in Connecticut have shown their first cases on their high uplands. In the consideration of the etiology of ague this fact should not be lost sight of.

Now if this "present epidemic" we have endeavored to present a detailed progress of, is to be considered as an invasion of New England from *without* its limits, or whether it is to be looked at as a new and vigorous departure, and spread from dormant and nearly dead forces, existant in the southwest parts of Connecticut, where Professor Knight claimed twenty-five years ago that malarial manifestations had never actually ceased to have some power, may be doubted, and is a point which cannot be certainly determined; nor is the question of the real *cause* of malarial disease in any way affected by our want of ability to determine that point. Whether or not the initial point of departure was within the boundary line of New England, or was immediately or at greater distance without, does not reach the question of—What is the potential factor or factors of intermittent fever and the allied diseases? But there is this certain in relation to the existence of ague in contiguous or not distant territory for years previous to this epidemic of it, with us. The southwest part of Connecticut borders on Westchester County, New York, a region where ague is perennial. Intermittent prevailed extensively in considerable portions of the west parts of Long Island, from 1850 and before up to 1860, as also in sections of New York Island. Portions of territory outlying New York City towards Connecticut suffered severely in the decade from 1850 to 1860. Going farther off, what are known as the flats of New Jersey were possessed of ague and fever still earlier. It is, therefore, not unreasonable to conjecture, although the conjecture may be illusory, that the State of Connecticut was invaded from without its limits, in exactly the same manner as the eastern and northern parts of the State have been invaded from the southwest parts, and as perhaps Rhode Island on the east, and Massachusetts on the north, have been invaded from their contiguous sister States west and south of them. It will be difficult for Massachusetts at least, to divest itself of the consciousness of indebtedness in this matter; and it is not much easier for Connecticut to rid itself of the opinion that it owes Westchester County and western Long Island a heavy debt of the same undesirable nature. Therefore, without any distortion of fact, and with a presumption that has every seeming of probability behind it, we may say that: The present epidemic of ague and fever entered Connecticut from the southwest in 1860; that the first lodgments were at two points on the Sound, about twenty miles apart—Darien and Fairfield, west of the Housatonic River; that it crossed that river the next year; began in the Quinnipiac valley a year later; reached the Connecticut valley, in the centre of the State, on a north and south line eight years after touching the Quinnipiac, and at its mouth three years later still, and was seven years longer in getting into the valley of the Thames and to the State of Rhode Island, on the East; and reached Massachusetts on its north line of march at about the same period; that it is still reaching north, northeast, and east, with an irregular front, erratic in its course but continuous; and that what may be the northern limit of its progress in the future can only be conjectural.

The figures herein given of the progress of ague are subject to the deduction of possible minor errors; the exact time of its appearance, reported ten or fifteen years after, in some cases, may not have been arrived at, but it is certain that the returns have been carefully and honestly made, and that they represent the truth as nearly as is possible to be obtained in any extended matter of search of this nature.

This paper is submitted partly for some historical value it may have, and in part as preliminary to some observations I propose to make on the etiology of malarial diseases in another article.

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Rock Hill, Conn., May, 1884.

ORIGINAL TRANSLATIONS.

CLINIQUE DE LA PITIE. M. DEBOVE. LECTURES UPON PARASITIC TUBERCULOSIS. Reported by DR. FAISANS, *Chef de Clinique*, and Revised by the Professor. From the *Progrès Médicale*. Translated by H. McS. GAMBLE, M.D., Moorfield, West Va.

Gentlemen: Source of error proceeds from confounding tuberculosis with a false tuberculosis, the conditions of which have been well studied by M. H. Martin.

If powdered lycopodium or any other inert powder is injected into the peritoneum of a rabbit, and some tuberculous substance into the peritoneum of a second rabbit, we see, on sacrificing the two animals about fifteen days afterwards, that in both the serous membrane contains granulations, and that these granulations appear to be identical as well from a microscopical as from a macroscopical point of view, and yet it is not the same lesion; we have to deal with a false tuberculosis in the first case, with a true tuberculosis in the second; this is what M. Martin has demonstrated by aid of his successive inoculations. He takes one of the granulations from the rabbit inoculated with the powdered lycopodium and inoculates another rabbit with it. He still obtains a positive result, but the granular eruption is already much less abundant. This second rabbit serves to inoculate a third; the result is still more incomplete, and at the fourth or fifth experiment the inoculation has no effect. On the contrary, the granulations proceeding from the rabbit inoculated with tubercle produce upon a series of fresh rabbits more and more extensive lesions, so that the virulence of the disease seems to increase at each new inoculation. The experiments of M. Martin prove that there ought to be no haste in affirming that tubercle has been obtained by the inoculation of non-tuberculous substances; tubercle cannot be defined by its macroscopic characters, any more than it can by the form or disposition of its elements; what is specific is neither its form nor its structure, it is the agent the presence of which has determined the lesion. Resting our opinion upon all the experiments which have now been reported, we can say that tuberculosis is a specific disease, since it can only be produced by tuberculosis, virulent because the tuberculous agent seems to multiply itself in the organism. But, before going further, it is necessary to say what is understood by this word virulent disease and to demonstrate in what poisons differ from virus.

Poisons produce upon the economy effects of which the intensity is in direct proportion to the quantity of the toxic substance injected. The action of a virus, on the contrary, is almost independent of its quantity, and an infinitesimal dose may produce the same effects as a considerable one. See, for example, what takes place in syphilis, which may be considered as the type of virulent diseases; the least absorption by a sound individual of the liquid secreted by a mucous plaque suffices to render that individual syphilitic, and, from the moment when the disease is declared, any drop of his blood is capable of reproducing the disease upon another individual; that is to say, that it presents absolutely the same properties as the little drop of liquid which issued from the mucous plaque. It is difficult to understand the action of a virus without admitting that it multiplies itself in the organism, that it is therein reproduced; in other words, that it is associated with the presence of living beings, and the parasitic theory forces itself upon us as almost for all virulent diseases. The virulent nature of tuberculosis is demonstrated by the experiments of inoculation, and its parasitic nature had been suspected before even its parasite had been known. Already, in 1880, M. Bouchard had supposed the existence of a microbe of tuberculosis, and had shown that the parasitic theory was the most reasonable hypothesis, the only one which could make comprehensible the etiological conditions, apparently so diverse, of pulmonary phthisis.

M. Toussaint, in France, Klebs, in Germany, believed that they had isolated the parasite of tubercle.

It appears well demonstrated to-day that their cultures were impure, and that they for this reason gave inconstant results. We cannot reproach Robert Koch with the same thing. We owe it to him the having isolated and described the bacillus of tubercle. He has demonstrated its existence in phthisical patients, has isolated it by cultivation, and has reproduced by inoculation with it a disease identical with the primitive malady.

They are the same proceedings employed by M. Pasteur for the study of charbon which have been applied by R. Koch to the study of tuberculosis. In doing this justice to our compatriot, I have no idea of diminishing the merit of the learned German whose name is henceforth associated with the discovery of the bacillus of tubercle.

This bacillus exists in the expectoration of phthisical patients, in all tuberculous products, miliary tubercles, caseous pneumonia, the walls of caverns, cerebral tubercles, tubercles of the serous membrane, nodosities of the "pommelière" (tuberculosis of the cow), tuberculous lymphatic ganglions articular fungosities, tubercles and tubercular infiltrations of the bones, etc. It is found equally in the expectoration of consumptives, the stools of the subjects of tubercular intestinal ulcerations, the urine of patients having tubercular lesions of the urinary passages, the pus of tubercular abscesses, etc., etc.

The bacillus is easily distinguished by coloring it with basic solutions of aniline, according to a process which we will give ultimately in detail, for its presence in the products of secretions may throw light upon a doubtful diagnosis. Let it suffice for the moment to say that none of the known parasites, except that of leprosy, are colored under the same conditions.

The parasite, once colored, is easy to study. It is a very slender *bâtonnet;* its length is equal to the third of the diameter of a red globule, its width is equal to the fifth or sixth of its length. Often spaces are distinguished in the interior which are not colored and differ from vacuoles in that they give place to a fusiform swelling of the bacillus. On immersing these parasites in water, they have not been observed to present the least movement.

The constant presence of bacilli in tuberculous products, their absence from non-tuberculous products, might, strictly, suffice to allow us to assume that they play an essential part and that they constitute the infecting agent. How many things do we teach in medicine which are far from resting upon facts as well established. It is true that these so-called truths have received the consecretion of time; the parasitic doctrine of tuberculosis is younger, and, in order to have it accepted, it is necessary to accumulate proofs, to show directly that the bacillus is the infectious agent, that it transmits tuberculosis when it has been isolated by cultivation.

After Davaine had discovered the bacterium of charbon, M. Pasteur isolated it and showed that it was the infecting agent. For this he had recourse to the method of cultivation which he had so happily applied to the study of the lactic and alcoholic fermentations.

This method consists in introducing into an appropriate liquid, which, in this particular case, was neutral or slightly alkaline urine, a drop of charbonous blood; the bacteria alone multiply, a drop of the first culture serves to plant a second, and one thus succeeds, by a series of crops, in obtaining the tuberculous (charbonous) bacteria absolutely free from every other organized element. A drop of the liquid obtained by the last cultivation inoculated into an animal reproduces charbon. Hence, bacteria are the cause of charbon. The same mode of demonstration has been applied to tuberculosis by R. Koch.

As each medium has to vary according to the parasite, it is difficult to find the medium which suits. But, once this medium found, there is this advantage, that it is unfit for the development of many other parasites, and that there are many chances of multiplying the microbe under consideration in preference to all others. R. Koch has chosen, for the culture of the tubercle bacillus, the serum of the blood, which he renders sterile by a procedure borrowed from Tyndall by subjecting it for a number of days, during one hour, to a temperature of 58° (C). It is said that this liquid is sterilized because the germs which it may contain are ordinarily destroyed by the preceding operation; it is then heated for a long time to a temperature of 65° to 70° (C.), it coagulates, preserving its transparency. It is planted with tuberculous matter coming from tuberculized animals, from surgical operations performed upon tuberculous organs, from autopsies, from consumption. In this last case, the culture is more difficult because not only are the bacilli of tubercle planted, but the germs of putrefaction also. In spite of these difficulties, with a little patience one often succeeds. The experiments of cultivation were performed at a temperature of 38° (C.) The tubercle bacilli increase slowly, fifteen to twenty days (period of incubation) are necessary in order that aggregations or colonies of bacteria may appear at the surface of the medium of culture under form of opaque points, so that if, in the first few days, the medium becomes cloudy, we can affirm that the experiment of cultivation has not succeeded, that other germs mingled with those of tuberculosis have been planted. The culture of Koch lasted on an average from two to three weeks; they were carried on in a series, and the medium of the fifteenth and sixteenth cultures contained bacilli identical with those of tuberculosis, giving the same micro-chemical reactions, and bacilli only were seen therein.

In order that the demonstration might be complete, it remained only to inject the bacteria, from the fifteenth or twentieth culture, and to prove that they reproduced tuberculosis. This is what was done by R. Koch. He has thus inoculated not only rabbits and cobayes, but also rats and dogs, animals much more refractory to tuberculosis. Tuberculous bacilli derived from cultivation introduced into the peritoneum render them tuberculous more surely than tuberculous matter itself, probably because they represent the agent of contagion in a state of purity.

Thus, gentlemen, we have reached the end of our demonstration; we have shown you upon what evidence the parasitic doctrine of tuberculosis rests; the inoculability of tuberculosis, the presence and persistency of the parasite in tuberculous patients, the isolation of the parasite, tuberculosis produced by the isolated parasite.

Let us see now the consequences of this parasitic doctrine.

II.

In the preceding lecture, you have seen upon what proofs rests the parasitic doctrine of tuberculosis. The parasite of this disease multiplying only at a temperature of 30° to 40°, it does not seem that it can be developed outside of the organism of man or of animals ; whence this conclusion, that every phthisical patient has been affected through contagion from some other subject of phthisis. For, to admit spontaneous phthisis would be to admit the spontaneous generation of its parasite. The contagion established, by what means can it be produced, what is its door of entrance, how does the microbe escaped from the diseased organism penetrate the sound organism ? Precise experiments give us some interesting information upon this subject.

The researches of M. Villemin put beyond doubt that one of the surest means of transmission of tuberculosis is the inoculation of tuberculous substance into the subcutaneous cellular tissue. This mode of contagion is absolutely exceptional, and I do not know, for my part, a single example proving phthisis contracted in this way. Some have cited the example of Laënnec, who pricked himself in pursuing his anatomical studies, and who several years afterwards died of phthisis; but it must be admitted that this example is not very demonstrative, when we remember that this illustrious physician, in order to perform his admirable works upon tuberculosis, had to live in a centre of tuberculous contagion, and that in his case every mode of contagion might be invoked. We might even say (excuse this exaggeration) that if Laënnec had not had phthisis it might be possible to invoke such an immunity as an argument against the doctrine of contagion.

There is another way much more frequently followed by the bacillus; it is the pulmonary route, and the expectoration of consumptives may be considered as the agent of this contagion. It contains numerous bacilli, which are found in the dust, resulting from its drying, bacilli which, more than a month after their dessication, have preserved all their virulent properties; they may penetrate into the bronchial tubes, and develop themselves there, but it does not suffice in order to demonstrate the possibility of this inoculation to say that the lungs are almost always attacked the first, and present the most advanced lesions. We know, in fact, that certain diseases love, so to speak, certain organs, and this is above all true of tuberculosis, since, in experimental inoculations, whatever may be the route of introduction of the virus, the pulmonary lesions are ordinarily considerable. These observations fall before the experiments of Tappeiner. He imprisons dogs in narrow cages and introduces therein the matters of expectoration by means of an atomizer, mingled previously with a certain quantity of water; these dogs become tuberculous, a result so much the more convincing as the dog is tuberculized with difficulty.

These powders of expectorated matters, it has been said, act as foreign bodies; they may produce pseudo-tuberculous nodules, and not the veritable tubercle; but we must remark that animals subjected to exhalations of tuberculous matter present multiple lesions in the viscera, whilst false tuberculosis is never generalized and provokes only local disorders. The bacilli which penetrate into the bronchial tubes with the dust may have different sources of origin, such as: urine, fecal matter, pus from osserous or ganglionary abscesses proceeding from subjects attacked with urinary, intestinal tuberculosis, etc., or even the tuberculous matter from the autopsies of phthisical subjects. This is probably a somewhat pregnant origin of bacilli which penetrate into the respiratory tract, especially when we remember the considerable quantity of microbes contained in the expectorations, the easy dissemination of the infectious agent through the matters so abundantly coughed up by consumptives.

A third route of introduction of the tuberculous virus is the digestive tube. M. Chauveau has caused tubercular matter to be ingested by some heifers, which became tuberculous. He took care to surround himself by a series of precautions which rendered any errors in the experiment difficult. He has operated upon heifers coming from the pastures, that is to say, under conditions in which tuberculosis is extremely rare. Other animals not inoculated, subjected to the same régime and placed under the same conditions, presented no tuberculous sign or lesion.

It is rational to admit that, in man, the digestive tube may also be the route of infection. It is perhaps thus that have been contaminated some patients whose first symptoms were intestinal disorders, and who have presented their principal lesions in the intestines, the mesenteric lymphatics, the mesenteric ganglia, and the peritoneum. In the patients whose lesions have manifestly commenced in the lungs, it is reasonable that the swallowed expectoration could become the cause of intestinal lesions, by a sort of auto-inoculation. Contagion by way of the genital organs, recently discussed by Professor Verneuil, is an ingenious hypothesis. We might thus explain certain facts of tuberculosis making its début in the testicle, and the cases of tuberculous orchitis arising consecutive to an attack of blenorrhagia. Up to the present time it was admitted that, in a tuberculous subject, all inflammations, and notably orchitis, tended to become tuberculous; but an inflammation could not produce a parasite; it is produced by it, or really due to some other cause, it favors its development.

For tuberculous orchitis, the bacillus not being able to be produced by the organism, having necessarily to come from without, I have no reluctance to admit that it might have followed the genital route, but this hypothesis upon the origin of genital tuberculosis in both sexes rests still upon facts too incompletely studied for it to be possible for us to dwell upon it at greater length.

All the experiments which we have reported so far show that phthisis is contagious, since it is transmitted from the diseased being to the sound being, and since it recognizes *always* as the cause either direct or indirect contagion, since it is due to a parasite which cannot be produced spontaneously; and yet tubercular contagion is admitted by the greater part of contemporary physicians only exceptionally. The word *contagiosité* has even been employed to show that, under special conditions, the disease might be contagious. Must we admit for this disease two distinct origins, and believe that it may arise sometimes spontaneously, sometimes by contagion? This double etiology appears to us as difficult to sustain as a double etiology for itch and phthiriasis.

A number of patients could be presented in whom contagion cannot be established, but this is no reason for rejecting it. No one denies that small-pox and scarlatina are contagious, and yet it is often impossible to find the origin of this contagion. This is especially true for the large cities like Paris; the agglomeration of the population, the frequency of the close relations of individuals, singularly complicate in such cases etiological researches.

(*To be concluded.*)

SELECTIONS.

CÆSAREAN SECTION: A CASE AND ITS LESSONS. By THOMAS M. DOLAN, M.D., F.R.C.S. Ed., Fellow of the Obstetrical Society of London, etc.

On Tuesday, December 30, 1884, I was summoned by my midwifery-nurse to the Halifax Union Maternity, to see A. M. P., who was reported to be in labor. I saw her at 9:30 A. M. She was in labor; the pains were weak and occasional, and had been on a few hours. On examination, I found that the promontory of the sacrum was not only angular, but exostosed, and so far approached the pubes that it barely allowed the tips of two fingers to pass to feel the presentation; and that the pelvis was generally contracted. I anticipated some trouble with this patient, as she had been in the house a few weeks; she was dwarfed, measuring only 3 feet 11 inches. I immediately had a consultation with Mr. H. Wright and Dr. Davy; and we decided, after several examinations and measurements, that it would be impossible in any way to deliver *per vias naturales*, and that the only chance lay in Cæsarean section.

A room in another part of the building was at once prepared, and the temperature raised to the desired heat. This, of course, took a little time, and it was not until 2.30 P. M. that the patient was transferred to this room. She was cheerful, not weakened, and in every way seemed to be a favorable case. In these days of antiseptic precautions, it is needless to say that the spray was employed, and that every attention was paid to the avoidance of anything that could give rise to sepsis. The position of the placenta and child was made out, the beat of the fœtal heart being very distinct. Ether was administered by Dr. Davy, and the operation performed by Mr. Wright and myself. A central incision was made, beginning just above the umbilicus, and carried down, a little to one side of the linea albea, to an inch above the pubes. As the abdomen was thin, the uterus was soon reached, and incised without any trouble, the intestines not interfering. But little difficulty was experienced in extracting a male child, which was alive; and comparatively little blood was lost. The placenta was taken away at once; all the parts well washed and cleaned; a drainage-tube was inserted; the uterine wound was brought together with interrupted carbolized catgut ligatures ; and after the usual details, the external wound was closed with silver sutures, and dressed with iodoform and salicylic silk, kept in position by a strong, firm binder. She was soon removed to bed, and made comfortable, and very soon recovered from the effects of the ether. The whole operation occupied about twenty minutes. Two nurses were told off to look specially after her—one for the night and one for the day. An opiate suppository was inserted, a catheter used, and ice only given. She passed the first night well. The following are the temperatures : at 8 P. M., 100° ; at 9:30 P. M., 95.2° ; at 12 midnight, 98.4° ; at 3 A. M., 99° ; at 5 A. M., 98.4° ; at 8 A. M., 99 2°. The uterine passages were well syringed through a tube.

She was seen repeatedly on the 31st by Mr. Wright, Dr. Davy, and myself. She craved very much for something to drink ; a little milk and soda-water was allowed. Pain was very slight. She had urinated, and was in very good spirits up to about 8 P. M., when she commenced to feel sick ; this was followed by vomiting. The suppositories were continued, and beef injections of peptonized beef-jelly (Mottersheads) were given. At 12, midnight, she complained of great pain ; this seemed to be relieved by the opiate suppositories. At 4 A. M. there was a great change. A sudden state almost of collapse set in ; this was overcome by hot bottles to the feet. The tube had come away during the day, and the passages were syringed in the ordinary way. The discharge was not offensive. The following were the temperatures : at 10 A. M., 100° ; at 12, noon, 100° ; at 2 P. M., 99° ; at 5 P. M., 105° ; at 6 P. M., 102° ; at 8 P. M., 100 ; at 10:30 P. M., 101°.

January 1. The wound was examined ; it looked well, but there was a slight discharge at the lower portion. The dressings were changed every three hours. She was still kept under opium, and beef suppositories were introduced into the rectum. She gradually sank during the day, dying at 8:30 P. M. The following were the temperatures : at 1:30 A. M., 102.4° ; at 4:10 A. M., 10.22° ; at 6 A. M., 103.6° ; at 8:30 A. M., 103.3° ; at 12, midday, 102.2 ; at 5:05 P. M., 105.5° ; at 7 P. M., 100°.

Post mortem examination, 1 P. M., January 2, seventeen hours after death. The body was well nourished. She was not externally deformed, the dwarfed condition being chiefly noticeable in the lower extremities. The spine was straight. Her length was 47 inches, thus distributed : lower extremities 19 inches ; trunk 19 inches ; head and neck, 9 inches. The upper extremities measured 21 inches, 11 and 10 inches respectively. The extreme measurement from the anterior superior spine of one ilium to another was 8½ inches. The wound in the abdominal walls was in excellent process of healing. I made an incision on each side, so as to reflect back the abdominal covering without touching the central wound, so that we might observe the exact condition of the uterus. The cause of death was at once apparent ; a large clot of blood lay free in the abdomen, which had been forced through the uterine wound, owing to the vomiting. The peritoneal inflammation was slight ; there was no sign of pus ; no offensive smell. As regards the other organs, there is nothing particular to note. I ascertained the measurement of the pelvis, which I found to be as I had already made out, one inch and a quarter antero-posteriorly, with general contractions, the bones being generally thickened.

REMARKS.—There are some lessons to be derived from this case. 1. So far as antiseptic precautions, it had been successful ; and, had it not been for the vomiting a fatal termination might not have been arrived at. The first lesson is that food should not be given by the mouth in such cases for two or three days, even though the patient is doing well, owing to the danger of exciting vomiting. This is found, I believe, to be the best practice in ovarian cases.

2. If we look at the list of cases published, sutures have been frequently inserted in the uterine wound. Though Davis says (*Parturition and its Difficulties*, p. 140), " No stuture should be applied to the uterus, its contractions alone being sufficient to close the wound, while sutures through its walls would be exceedingly hazardous," yet Sir Spencer Wells, in a successful case employed continuous sutures, to bring the uterine wound into apposition. And in case 121 (Dr. Radford's *Observations*, p. 218), under the care of Mr. Alcock, fine carbolized catgut sutures were used to the uterine wound, and we see that the patient recovered. In my case, owing to the attack of vomiting, the sutures gave way. Had the wound been left unsutured, the same result would have followed ; the blood would have come through. I think it would be better in all cases to use the continuous suture, as less likely to yield.

3. If we again analyze the case of Cæsarean section, we find that the great cause of death is peritonitis. There is every reason to believe that this is set up by uterine exudation. In many cases, a clot has been the primary cause for disturbance. Hence Porro's operation of utero-ovarian amputation, *prima facie,* supported as it is by statistics, suggests itself as the appropriate adjunct of Cæsarean section. 4. If we look at our statistics in bulk we find one striking feature, namely, that cases in the country have done very well. We must allow for this good air and good constitutions, apart from surgical skill. If, however, we examine some of the successful cases, we shall find that some of our preconceived ideas as to the value of pure air, and other requirements in this class of cases, are rudely shaken. Thus, for instance, if we look at details of the case under the care of Mr. Clement Gray, we find that the operation was performed on a single woman, four feet in height, aged 41, and that the operation was done in the cottage in which the patient lived, situated in a small yard off the main street in Newmarket (England). Mr. Gray says (BRITISH MEDICAL JOURNAL, vol. ii, 1883, p. 727) : "The drainage and ventilation were very defective. The bedroom in which the operation was performed was barely large enough for myself and four medical friends, who gave me their assistance. The wretched apartment was so close, and the weather so sultry, that we were obliged to keep the window open during the operation. The patient was placed on a common deal board, in a half sitting posture, and, the bowels and bladder having been emptied, Mr. Hutchinson proceeded to use the ether-spray * * * * The fœtus weighed seven pounds, and had been dead a week. Five equidistant wire

sutures, including the peritoneum, brought the wound together, which was covered with a compress of lint, supported with bands of adhesive plaster and a broad bandage * * * * I was amazed to find on the following day, five children down with the measles in the only available room for the use of the family, eight in number ; a narrow stairs connecting this with the dwarf's room above, which thus received the foul air from the lower apartment. The diet consisted of milk, and from first to last no stimulant was administered.

"The patient had no nursing beyond that given by a neighbor, who ran in and out when she could spare time, but I watched her with the closest attention."

Mr. Gray very truly says, "This case, performed under the most disadvantageous circumstances, without antiseptic precautions, and amid the most unsanitary conditions, is probably unique of its kind." It certainly is. When we consider that Cæsarean section has been fatal in the hands of surgeons of the highest eminence, who have carefully safeguarded their patient by the strictest precautions, as to the temperature of the room, antiseptic measures, skilled nursing, special attention of every kind, we must come to the conclusion that there is no scientific basis for Cæsarean section as at present performed, and that we yet must seek for the cause of failure. It may be true that we have found it in the retention of the uterus, and that Porro's operation may be the key to success ; but upon this point the profession is not yet agreed, so that it is to be hoped that, at the next International Congress, at Washington, we may have some papers on this subject, and the latest statistics. Though a rare operation, yet it may fall to the lot of any practitioner to have to decide what he would do in the presence of such deformity.

5. Opinion is divided as to whether a drainage-tube should be inserted or not. My opinion is that a drainage-tube is quite unnecessary ; in place of assisting, it may act as an obstruction to the flow ; it soon becomes clogged up, and, unless continually cleaned by injections, will not carry any fluid off.

6. I have alluded to Porro's operation as the complement of Cæsarean section. In Great Britain, the opinion of obstetricians seems to be growing in its favor, and we have already several cases on record in which it has been performed.

In the BRITISH MEDICAL JOURNAL, vol. i, 1881, pp. 910, 956, there is a very good summary of facts bearing on Porro's operation by Professor Simpson (Edinburgh) ; from which it appears that, up to that date, 30 mothers were saved by the operation and 42 lost, with 57 children saved and 14 lost ; very gratifying statistics indeed when compared with the results of Cæsarean section, as ordinarily performed. More recent statistics give even better results. Professor Simpson lost his patient, but the child lived; nevertheless, he seems to be in favor of the operation, more particularly as out of 18 cases of Cæsarean section performed in Scotland, not a single mother survived.

In the BRITISH MEDICAL JOURNAL, vol. i, 1884, page 142, there is the most complete paper on the subject yet published in England, from the pen of Dr. Clement Godson, which was read in the Section of Obstetric Medicine, of the meeting of the British Medical Association in Liverpool. He gives a record of 134 operations, representing 59 recoveries and 75 deaths. He says: "The first idea will not be altogether favorable." "But," he adds, "in comparing these results with those of the old Cæsarean operation, I would call attention to the following astounding facts. In the Vienna Hospital, for one hundred years there had not been a recovery after Cæsarean section; whereas, recently, in three cases of Porro's operation performed in one week by Professor Carl Braun, the whole of the patients recovered. In Italy, the old Cæsarean operation was almost always fatal. Professor Chiara, of Milan, writes that, out of 62 cases operated on by Porro, Lazzati, Billi, and himself, only three recovered. On the other hand, nearly half (23 out of 53) of the Porro's operations have been successful, notwithstanding that the operation has been performed by as many as thirty-five different surgeons. In our own city (London) I know that our late colleague, Dr. Greenhalgh, performed Cæsarean section ten times with only one recovery, while I have myself seen it performed by four different operators, every case proving fatal." The most telling evidence is conveyed in the BRITISH MEDICAL JOURNAL, January 26, 1885, page 192, in a letter from Dr. Godson, detailing the results of Porro's operation in the hands of three men, namely:

	Cases.	Recoveries.	Deaths.
Professor Porro, Milan, - -	5	4	1
Professor Breisky, Prague, -	4	4	0
Dr. Fehling, Stuttgart, - -	4	3	1
Total	13	11	2

Dr. Godson is to be congratulated as the only successful performer of a true Porro's operation in Great Britain, it having failed in the hands of Dr. Heywood Smith and Dr. Grigg. Utero-ovarian amputation has been performed in Great Britain by Savage; but, as Dr. Godson points out, in the BRITISH MEDICAL JOURNAL, February 16, 1884, page 341, Dr. Savage's cases were not performed with the special object in view of saving the child's life. Dr. Godson says: "Dr. Savage's were not Porro's operations, and are not included in my tables as such, for the very reason that they were performed before the fœtus had reached the viable period. Porro's operation is particularly directed toward saving the life of the child, as well as that of the mother."

In midwifery-practice, I have always held that we owe a responsibility to the child as well as to the mother, and that we cannot either bring an abortion or perform craniotomy, or any other operative procedure on the child, at our own will and pleasure. I believe there is a growing feeling in this direction amongst the best accoucheurs.

Dr. Radford, of Manchester, whose name is much associated with Cæsarean section, was a stanch supporter of the claims of the infant, and advocated Cæsarean section as an operation of election, and not of necessity. His statistics usefully assist us in arriving at the comparative mortality after Cæsarean section and after utero-ovarian amputation. Dr. Radford furnishes a list of 131 patients on whom Cæsarean section had been performed, out of which number only 13 mothers recovered ; the death, in a large number of of cases, being undoubtedly due to the long period of labor, and the enfeebled state of the women.

If we compare the results obtained in America, collected by Dr. Harris, of Philadelphia, we cannot fail to be struck by the difference in the results. Dr. Harris says : *"We have had 113 operations and 49 cures in the United States. Twenty-eight early operations in the United States saved 21 women and 19 children ; 23 children were delivered alive ; 9 women in North America, and 8 in the United States, were operated on twice, with 16 recoveries in the 18 cases ; 14 children saved."

The favorable results obtained in the United States are remarkable, and must be estimated in deciding whether Porro's operation is to be the operation of the future. In order to bring the statistics down to the present time, I supplement Dr. Radford's tables with additional cases recorded in our English journals up to 1884.

The case thus stands : Porro's operation, as recorded by Dr. Godson, 134 operations, 59 recoveries and 57 deaths ; Cæsarean section in Great Britain up to the present time, 136 operations, 25 recoveries, and 111 deaths. If we take the statistics of the United States, we have 113 Cæsarean operations, 47 recoveries, and 66 deaths.

There is ample scope for debate with such statistics as the above. My own opinion now is, that Porro's operation is the one I would recommend should I have another case. My patient would not have died from the cause found out at the *post mortem* examination ; though she might, it is true, have died from shock, hemorrhage, or septicæmial had Porro's operation been performed.

In the discussion on Dr. Godson's paper at the British Medical Association, I do not gather that any conclusions were arrived at, relating to the following points :

1. As to whether Cæsarean section was to be discarded and utero-ovarian amputation recommended as a substitute ;

2. Whether, in all cases of known deformity or diseased condition, the pregnant woman should be allowed to go to her full time so as to allow of the birth of a viable child.

These two points would form a fitting theme for our Obstetrical Society, and some definite expression of opinion might be issued, so as to guide general practitioners, who are likely, from their position, to meet with this class of cases ; such expression might also include not only the various steps of the Porro's operation, but also what the Society might deem the best method.—*British Medical Journal.*

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* Dr. Radford, *Observations*, page 80, second edition, 1880.

RETINAL HEMORRHAGE IN MALARIAL FEVERS. By EDWARD W. JONES, M.D., New Orleans, La.

My attention having been called to the frequent loss of sight in patients suffering from malarial fever, I have given the matter special attention, and have kept a complete record of all cases which have come under my observation and treatment for two years past. I had noticed that when there was a loss of sight sufficient to call the patient's attention, I have invariably found hemorrhagic extravasations in the retina. I have searched all literature that was in my possession, and found only one author who refers to it, and that is W. R. Gomers, M.D.

The patients as a rule are not subject to these hemorrhages until they have been sick for a week or more, and then the loss of vision comes on suddenly. There is usually nothing abnormal on inspection, but the moment that the opththalmoscope is used, the diagnosis is easy. I will give the history and treatment of five cases, taken from my note-book, which will serve to illustrate this condition :

J. M——, a merchant, married ; aged thirty-four years, went out hunting in November, in the swamps ; was absent two nights and days. One day after returning home he had quite a severe attack of malarial fever, of remittent type ; was given quinine by the family physician and in five days was apparently well ; on the sixth day patient suddenly lost his sight in the right eye, and becoming very much alarmed, sent immediately for his physician, who called me in consultation. The eye, to all appearances, was perfectly normal. On examination with the ophthalmoscope, I found three large striated hemorrhages above the nerve along the course of the large blood-vessels, and a round one covering the yellow spot. There was no central vision in this eye, but at both sides of the eye it was $\frac{6}{\mathrm{cc}}$. The left eye was normal. Patient was put on iron and ergot in conjunction with the quinia. The hemorrhages have faded gradually away and only a few shining spots remain. The vision is now $\frac{20}{\mathrm{xxx}}$.

In the three following cases the patients were laboring men who had been working on a railroad in Arkansas : they were all young men and had been sick for three weeks. Two of them had many small hemorrhages in both retinæ, and the third one had one large extravasation between the nerve and the yellow spot in the left eye, but none in the right ; this patient had quotidian ague. There was considerable optic neuritis. The first two patients recovered rapidly and the hemorrhages all disappeared, whereas, in the third case, recovery was very slow. His vision in the beginning was fingers at three feet, and now, at the end of four months, is $\frac{20}{\mathrm{cc}}$; his general health is very good, and has been so ever since, after his first attack of fever.

The last case was that of a German woman, aged thirty-seven years, who had been suffering with malarial fever for a week, but had taken no medicine until her physician was sent for at this time. Her case, he said, was a mild one, but she said she had lost her sight in the right eye. On examination with the ophthalmoscope, I found many hemorrhages along the course of the larger blood-vessels, the disk presented a pale appearance, and the blood-vessels seemed to be almost empty ; there was also an extensive hemorrhage in the vitreous. Visions was fingers at two feet ; on the third day the whole of the retina became hazy, but the vitreous remained about the same. Patient was put on the same treatment as already mentioned. This occurred some fourteen months ago ; there now remain some small dark spots where the hemorrhages were, the optic disk is white, blood-vessels diminished in size, and there is well-advanced atrophy. Vision, when first seen, was fingers at two feet, now it is $\frac{10}{cc}$. Patient left the city for some six or eight months and went North. Her general health is now perfect. The sight in left eye is $\frac{20}{xx.}$. Out of some twelve cases this is the only one resulting in atrophy, and I suspect that the patient had attacks of malarial fever before this last one.

The remaining cases that came under my treatment showed nothing remarkable, excepting that some recovered much more rapidly than others. If put on quinine alone, without the ergot and iron, recovery was much retarded. There being nothing abnormal on inspection in these cases, I am led to believe, and am of the opinion, that hemorrhagic retinitis is much more common than the general practitioner is aware of, and if the ophthalmoscope were used in those cases where there is loss of vision in malarial fevers, hemorrhages in the retina would be found in the large majority of cases.—*N. Y. Med. Record.*

NITRITE OF AMYL AN ELIMINATOR OF URIC ACID ; ITS EMPLOYMENT IN THE TREATMENT OF GOUT. By ARCHIBALD D. MACDONALD, M.D., Liverpool.

I propose to support the title of this short paper by three distinct yet closely connected statements.

1. On September 13, 1881, I attended a case of what is usually called puerperal eclampsia. After the first hour, and during three and a half hours, I repeatedly gave nitrite of amyl by inhalation, in the usual way and dose. In the course of the following eighteen hours one minim of nitro-glycerine, of 1 per cent. solution, was four times administered, and chloroform to a limited extent, as well as an operative procedure, also marked that period. Nine hours after the last dose of nitro-glycerine ; that is about 31½ hours after the first inhalation of nitrite of amyl, I drew off the urine. After standing for nearly forty-eight hours, it was seen to have deposited, *inter alia*, crystals of uric acid.

Then this fact somewhat puzzled me, but I was inclined, for reasons which need not be specified, deduced from the hypotheses of authorities on the subject of this eclampsia, to look upon this as an interesting clue to a rationale of the colchicum treatment of the disease. A notice of the observations of Signori Guiseppe and Sansoni, of Turin, however, has forced me to reconsider the point.

2. Accordingly, I instituted a check-experiment, the subject of which was a healthy adult, whose urine was previously normal. The experiment, except

the non-administration of chloroform, corresponded, as far as possible, with the case just mentioned. Thus, from 10:45 A. M. till 2:50 P. M., seven inhalations of five minims each of nitrite of amyl were taken. The urine passed at 4 o'clock, an hour after food, was of a clear dark straw-color, very acid in reaction, and on cooling, deposited a little mucus, and copious urates. One ounce without the urates, but *plus* a drachm of hydrochloric acid, showed, after forty-eight hours had elapsed, a large deposit of uric acid crystals. Also, as in the case, nitro-glycerine was taken.

A similar quantity, passed seven hours after the last, almost free from visible urates, similarly treated, gave what may be relatively termed a very considerable deposit ; and next day (thirty-six hours after the first drug was first administered), from the sample, a considerable amount of the crystals was obtained.

I hope shortly to narrate an experiment with regard to the effect of nitroglycerine *per se*.

Thus I was able to confirm the statement of the Italian observers named, and also to find that the balance of fact against theory compels me now to believe that the excretion of uric acid in the case of eclampsia was, at all events, largely due to the drug employed, and not wholly to the disease, and that no deduction can be drawn from the premises as to any connection between the gouty diathesis and puerperal eclampsia, or the consequent colchicum-treatment of that affection. My inquiry into the symptoms had no pretence to have been exhaustive ; the case, however, is pretty clearly, though not yet quite logically, proven now.

3. A practical application of this property of the nitrite of amyl as an eliminator of the gout-poison immediately occurred to me, to which I at once gave effect.

H. G., of The Brook, a powerful, slightly ruddy man, aged 37, had suffered from gout, and now had an attack chiefly in the ankle-joint. For four days he had had an alkaline mixture with colchicum, and had obtained some relief, also, from local treatment. At 4 P. M., on April 17, his urine was clear straw-colored ; on standing it contained a very little mucus, no other deposit. One ounce, acidulated with a drachm of hydrochloric acid as before, and set aside for forty-eight hours, showed only a very few crystals of uric acid.

That statement enables a fair judgment to be formed of the state of matters previously to the use of the nitrite, during which the medicine and special local treatment were, of course, abandoned.

The first inhaled dose of four minims was given by myself at 4:2 ; a faint flush and sensation of fulness in the head resulted. At 6, 8, and 10 o'clock the dose was repeated. Next morning at 9 he was much better, but had a slight headache which soon passed off. His urine, passed at that hour, showed a very acid reaction, and, being treated as above, gave what I describe in the absence of a quantative analysis, as a considerable deposit of uric acid. On the 10th he was able to walk, the ankle-joint being very nearly well.

Remarks would be redundant. Further research is manifestly required. I will only say that all I claim is to have established a *prima facie* case for the administration of nitrite of amyl as a rational therapeutic agent in those cases of gout in which the usual contraindications do not prevent its use. And if we can by its means procure a more than normal discharge of uric acid when an attack threatens, we may find it prophylactic as well as curative.—*Brit. Med. Journal.*

RESUME OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

PUERPERAL MASTITIS, AND HOW TO TREAT IT.—In the *Northwestern Lancet* of May 1, Dr. E. E. Brubaker has a paper on this subject. After a review of some of the recent literature on the treatment of mastitis, in which he finds great diversity of opinion among various authorities, he passes on to a consideration of the conditions present, and what he considers the most rational measures of relief. There are present all the conditions attending any acute inflammatory process, and there may be, and usually is, in addition, an over distension of the lacteal ducts with recently formed milk ; this, together with the greatly increased blood-supply, will present a condition amounting to engorgement. The desire to relieve the distended gland by getting rid of some of the lacteal secretion is one of the first impulses with which the physician is usually seized, not stopping to consider that when the pressure reaches a certain degree of tension, all further formation of milk ceases ; that the milk already formed does not undergo any change detrimental to the accomplishment of the desired result, while the efforts to relieve the gland will not only accomplish but a temporary relief of the distension, the same condition speedily returning, but positively aggravate the trouble and inflict much unnecessary suffering. Observation, and a little judgment in making practical use of what we observe in nature, he thinks, should warn us to refrain from any such procedures.

He then quotes from Dr. P. A. Harris, of Paterson, N. J., who says : "If we inquire into the habits of the domestic brute mammalia, particularly the cat, bitch, cow, mare, and ewe, we find that, although frequently deprived of their young while the secretory function of the mammary gland is at its height, yet they are comparatively exempt from the occurrence of mammary abscess." This, of course, is less true of the cow and mare, which are subject to the meddlesome interference of their owners ; hence, he further remarks, "but cats, dogs, and sheep, deprived of their progeny, immediately (or shortly) after delivery, being less valued than the cow or horse, and not required to labor, and left to pursue their own inclinations, receive little or no attention from their owners, and are generally allowed to get well without the development of either inflammation or abscess." *If these observations teach anything at all, it is most emphatically the let-alone treatment, so far as* *the lacteal secretion is concerned in all cases.* The plan he has adopted for the past four years is to interdict at once, not only nursing but all meddling with the glands, such as friction or rubbing, expression, and the breast-pump. Poultices, hot water, or fermentations of any kind, he positively forbids, and whatever the period of lactation, if inflammation is established and shows signs of being in the least severe, he enjoins absolute rest in bed. If he concludes not to apply any other local means than those for securing support and absolute rest to the gland with pressure, he proceeds at once to apply equalized compression to the breast by means of straps of ordinary surgeon's adhesive plaster, cut about one inch wide and of sufficient length to pass across the breast and extend four or five inches beyond the base of the gland upon either side. He begins by applying the first strip just below the nipple, drawing it firmly across the gland towards the base, at the same time carrying both ends upwards upon the chest ; the next strip he applies just above the nipple in like manner, carrying both ends downwards across the first strip ; the next one below the nipple again, permitting it to just overlap the first strip ; the next one above the nipple, permitting it to just overlap the second strip, and so on alternately below and above the nipple until the entire gland is covered. When this method of applying the straps is completed, the gland will usually stand out straight from the chest ; all sagging having been completely overcome ; if the gland is unusually large, and the sagging is not entirely overcome, or is likely to occur to a sufficient extent to interfere with recovery or cause suffering when the patient is sitting up, he has been in the habit of applying a strip of adhesive plaster two or two and a half inches wide, beginning upon the back over the shoulder blade upon the side of the affected gland, carrying it downwards across the under side of the breast, then up to the opposite shoulder. When the accompanying fever is high, with a rapid pulse, he gives fl. ex. aconite in drop or three-quarter drop doses every hour, or smaller doses every half hour until the temperature falls below 1001. He also gives a full dose of Dover's powder, or svapnia, or hydrate of chloral combined with the bromide of potassium or sodium, if the pain is sufficient to demand an anodyne, or there is restlessness. He is governed in the choice of these remedies by the amount of pain or nervous excitement there is present. This is the treatment he has pursued in the majority of his cases of mastitis for the past four years, and with the happiest results, as he has not had a single case go on to suppuration. The relief was usually immediate so far as suffering is concerned, and as to the arrest of the inflammatory process, all the active symptoms subsided within twenty-four to forty-eight hours. When he deems it necessary or advisable to apply other local measures either to limit the formation of milk or assist resolution, when the case is of a subacute character, and also in acute cases after the inflammatory process had subsided and any induration remains, he applies over the breast freely the ointment of iodide of lead, whose therapeutic value in the relief of swelling or induration of glandular structures or in arresting the secretion of milk is unquestionable ; over the top of this he applies a very light layer of absorbent cotton, and over the whole strips of adhesive plaster. In the future he says he will substitute for adhesive plaster a bandage applied after the method employed by Dr. P. A. Harris, of New Jersey, in those cases where he uses the ointment or other local remedies.

In cases also where suppuration has already taken place, equalized compression is just as essential in relieving the œdema and local engorgement, in securing rest and support to the gland and hastening the healing process; the bandage will in such cases be more convenient, as it can be more easily removed for the purpose of inspecting the breast at the subsequent daily visits, or for dressing the abscess in cases where suppuration has occurred.

In the early stage of mammary inflammations, where the severity of the local symptoms in the least leads him to fear subsequent suppuration in spite of all treatment, he has been in the habit of giving sulphide of calcium, as recommended by Gaunt, in ⅛ gr. doses every hour; and were he called to a case where the inflammation had already advanced to a point where suppuration was to be expected or inevitable, he says he should give the sulphide of calcium with a hope of limiting the extent of the formation of pus. In cases where there is simple "caking" of the gland, with tenderness which is sometimes exquisite, even though there is little or no constitutional disturbance or other sign of acute inflammation, he has either applied the ointment of iodide of lead, as referred to above, or a plaster of belladonna of the proper size to cover the indurated or painful part. This he applies to the adhesive plaster at the proper point previous to cutting into strips. In this method of treatment with the adhesive plaster, the nipple is left exposed, and if there are any cracking, deep fissures, or excoriations, as frequently happens, which may have been and usually are considered the exciting cause of the mammary trouble, the nipple will be exposed for treatment. For this purpose he employs tannic acid or glycerine, oxide of zinc or bismuth.

He then summarizes as follows:

1st. In mastitis we have all the conditions of any acute inflammatory process present, with the addition of engorgement of the lacteal ducts.

2d. One of the first principles in the treatment of mastitis, as in other inflammatory processes, is absolute rest; this principle should be carried out to the fullest extent in mammary inflammations—not only rest for the inflamed gland, but rest in bed and mental rest.

3d. Observations of domestic brute mammalia deprived of their offspring during lactation, when left to pursue their own inclinations, teach us an important lesson, viz.: *Let the breast alone absolutely, so far as the removal of the lacteal secretion is concerned, in all cases; interdict all rubbing, expression, pumping or nursing.*

4th. In carrying out the foregoing principles, apply at once equalized compression by carefully adjusted strips of adhesive plaster or the bandage as recommended by Dr. P. A. Harris, and employ aconite and anodynes as indicated; the other remedies referred to will be found valuable adjuvants in suitable cases as previously discussed.

5th. And lastly, discard all *poultices, hot water or fomentations of any kind, as dangerous, and more likely to favor than avert suppuration*

The method of applying the bandage employed by Dr. Harris is as follows: "Procure a roller bandage at least twenty yards long and two or two and one-half inches wide; also eighteen safety pins to secure the points that are likely to slip and produce displacement of the bandage. Assuming that the left breast is the seat of mastitis, envelop it in a layer of cotton-wool and begin to apply the dressing by lifting the affected gland with the bandage, the free end of which is held upon the back under the shoulder-blade of the left side, while the roller is carried under the left arm and breast from left to right, up over the right shoulder, thence around under the left arm, under the affected breast again, over the right shoulder again for two or three turns, then across with the bandage beneath the sternum, carrying it under the right breast and arm, up behind over the left shoulder and sternum, across the inner, anterior, and under portion of the right breast, under the right arm, up across behind over the left shoulder and sternum, under the right breast and so on around again and again; once directly around the thorax under the left breast and over the right shoulder, then under the left arm directly over the left or affected nipple, just beneath the right nipple, thence around the thorax once or twice above both nipples, then just below the left nipple and above the right one, around the thorax beneath the left breast, over the sternum and right shoulder, under the left arm, both breasts and right arm, up behind and over the left shoulder and sternum, before and beneath the right breast and right arm, over the left shoulder and sternum, under the right breast, directly around the thorax, over the anterior, inferior portion of the left breast, sternum and right shoulder," until the bandage is used up. The safety pins can be applied as the bandaging progresses at those points where slipping is likely to take place. When once acquainted with the details of applying the bandage, the task is neither difficult of execution nor a time-consuming operation. The only objection worth speaking of to the bandage is the inclusion of the unaffected breast in the dressing; a space is left of course over the unaffected breast for the purpose of nursing.

AN UNUSUAL CASE OF EXTRA-UTERINE PREGNANCY.—This case, reported in the *Medical Bulletin*, was under the care of Dr. William R. D. Blackwood. The patient, who was the mother of two children, in December, 1883, had a recurrence of menorrhagia, to which she had formerly been subject, and was treated by intra-uterine applications of iodine, iodide of potassium, and glycerine, while the uterus was kept well condensed by faradism applied daily. She menstruated normally in the first week of January, 1884. The uterus was four inches in depth, patulous, and was well swabbed internally and painted over the cervix externally during treatment. Pregnancy occurred on the 8th of January; and this is *positive*, intercourse not having occurred for a month previously, and never since that date. The intra-uterine treatment was resumed on the 15th of January, but the electricity was suspended, condensation being now well secured. Pregnancy was, of course, neither known nor suspected at the time. Early in February severe abdominal pains, presumed to be neuralgic, were inaugurated and treated by morphia. These were diffused at first, but later they were discovered to be uterine, and the local applications were discontinued, as being possibly the cause of uterine colic, the fallopian tubes on either side being over-dilated perceptibly, and the way therefore was open to transit of the caustic toward the peritoneum. Since menstruation ten thorough applications of the mixture had been made, *and the uterus, beyond question, was empty.* To his utter surprise, morning nausea, mammary pains and engorgement, evidenced pregnancy; but no examination, however careful and thorough, detected the presence of the embryo. The abdominal walls were well filled with fat, and obscured at this time the true condition. By the 1st of March the lady several times felt, above the right groin, a globular mass the size of a large walnut. The mass was movable in any plane, not at all tender, and it was undeniably a tubal pregnancy. He had again employed electricity freely during this period, though not definitely, in the absence of any sign accurately locating the embryo, but now galvanism and induction currents were brought to bear directly upon the mass, and he carried these far beyond anything yet recorded in such cases. Rockwell and others, he says, hesitated going beyond from sixteen to twenty-four volts, but he carried the current up to fifty-nine volts before ceasing his efforts.

In the course of a few days after locating the tumor, it disappeared, and attacks of extreme weakness led him to suppose at first that rupture of the tube had ensued, the hemorrhage, however, being soon arrested, or that the embryo had escaped from the fimbriated extremity, the mass now being free in the abdominal cavity and somatic death assured. Neither the patient nor himself could detect the body through external palpation, nor by the vagina or rectum. The uterus was retroverted more than usual just then, but in two weeks more it assumed its normal position, *and the mass was once more easily found, but it was more central in location.* The sound showed the womb to be empty, and he could thrust that viscus to the left with the instrument in his right hand whilst grasping the enlarged embryo with his left and holding it toward the opposite iliac fossa. The truth undoubtedly was that a long fallopian lube had fallen backward out of reach with its contained embryo, dragging the uterus into temporary retroversion, but the womb had again resumed its normal position. He had been mistaken as to the rupture or escape by the ovarian end, and the body was evidently still tubal and moving toward the uterus. How long would this continue without rupture? He had, prior to this, successfully treated two cases of extra-uterine pregnancy by electricity, but his efforts here were apparently futile, and he feared rupture at every moment. By the middle of April the fœtus was almost in the median line, but the womb was yet empty and crowded toward the left. He could still introduce his hand edgewise between the two masses. Hypogastric pains recurred now with great severity, and motion was clearly apparent in the tumor. At the end of April the fœtus had entered the uterine cavity proper, and the internal os now closed, it having hitherto been patulous under repeated gentle examinations with the sound. So far all was well, but now came a difficulty, the outcome of which he could not foresee. The patient was safe as to the relief from an extra-uterine fœtation, but the galvanism had almost literally destroyed the abdominal muscular walls, the fat was totally absorbed, and the uterus was thinner than any which he had ever seen, being about as thick as two or three layers of blotting-paper only. The thinning progressed until it seemed as though the womb must rupture, from the growth of the child. The electricity was stopped before this complication had attracted notice.

The general health of the patient was now getting better; the crisis was largely averted, and did the atrophy not persist, or should it be happily replaced by a better development, all would yet be well.

During the latter weeks of pregnancy a better development of the muscles was observed, but when labor occurred they were very much thinner than anything in his experience. Labor did not happen till the middle of December, *fully six weeks beyond term*, but the act was in every way normal, short and easy. There were not more than two ounces (if that much) of liquor amnii; the child weighed ten pounds all but an ounce, and the only drawback was a leaning toward *post-partum* hemorrhage, controlled by ergot, pressure, and grasping the uterus firmly for half an hour or more. Convalescence was good. A subsequent leaning toward subacute peritonitis was checked by morphia and local application of iodine. The patient is at present in excellent health, and so is the baby.

The points of interest are: First, Was the fœtation extra-uterine? To this he answers unhesitatingly in the affirmative! He repeatedly explored the uterus with a long sound up to the fundus, and turned the point of a slimmer instrument into both fallopian tubes, for half an inch on the left and an inch easily on the right. This was done when the rational signs of pregnancy were evident and after he could grasp the embryo as a mass whilst in the tube and distant from the womb fully four inches. He watched the development of the tumor and its transit to the uterus daily, and with extreme interest and care, till it reached its normal home. About the beginning of the third month he felt the dilatation of the right cornua, and says he cannot be mistaken about the facts thus observed. An extra-uterine fœtation being destroyed by electricity and followed by a normal pregnancy was impossible. No sexual intercourse was attempted after January 8, to his positive knowledge.

Why did the battery not destroy the embryo? This, he says, he cannot tell, but he does know that every effort was made to obtain full effect; the current strength was enormously in excess of that known to be effective in such cases; the battery was in excellent condition; the electro-motive force was measured by accurate tests. The effects of the application were to cause absorption, as is sometimes done by electricity in thoracic or abdominal dropsy, of the liquor amnii almost entirely; the muscles were atrophied just as they have often been destroyed experimentally through excessive galvanic force long continued, and the plantar cramp and referred sensations in the distribution of the sciatics, was pathognomonic of undue nerve stimulus, for a long time. The fœtal envelope somehow resisted the current, although it was fully encircled by large rheophores externally and a closely applied rheophore behind it in the vagina. Experiment on animals which abort easily (such as rabbits), and others, as dogs and cats, has taught that a normal pregnancy is untouched by electricity unless the current is carried to the fœtus by intra-uterine rheophores, and of course the mechanical effect then would be sufficient to produce abortion without the electricity. He says he uses electricity without hesitation in pregnant women, if it be required, but does not of course employ vaginal rheophores. How did the duration extend beyond a normal term? He believes that development was *delayed* by the galvanism, at least during the first seven months, and this may have been a factor in the case, although the child grew rapidly toward the close of term.

In conclusion, he gives the details of a number of experiments prepared by him, from the results of which he says: The inference cannot be avoided that the muscle and the membrane were of different values as conductors. The law governing induction currents shows conclusively that the peritoneal membrane acted in the latter experiment as an *insulator*, sufficiently, at least, to produce the faradic current on opening and closure of the voltaic circuit. It is plain to him, therefore, that the current as it can be applied to the exterior of the uterus, travels *around* it, unless extremely powerful force be employed, and there is, of course, a limit to the strength admissible. Inclosed, as it is, in a manifold serous envelope, a poor conductor compared with a good muscle conductor outside this, the major part of the current must needs avoid the contained fœtus, which is, therefore, safe from injury under an electro-motive force safe to its mother. The embryo, when tubal, in the earliest weeks is more readily destroyed, as the electrolytic effect is greater than in a larger mass, but once the chorion and amnion are formed, he believes the effect of electricity is not great, and in the case now reported, the fœtus was nearly three months developed before definite applications were thoroughly made; hence they failed in destroying, though they may have deferred its development.

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ORIGINAL ABSTRACTS.

FIVE CASES OF PELVIC HÆMATOCELE, TREATED BY ABDOMINAL SECTION.—Dr. Francis Imlach (*British Medical Journal*) reports five cases of pelvic hæmatocele which came under his care in rapid succession for surgical treatment. All the operations were performed in the Hospital for Women, Liverpool, with the assistance of his colleagues, and all the patients recovered. He makes the following remarks in regard to them: In none of these cases was there evidence of tubal pregnancy. The extreme collapse, which is, perhaps, the most significant symptom of rupture in this condition, was never noticed. It is, of course, possible that a small disintegrated fœtus, or a corpus luteum, may have been a pathological factor in all of them. There was also no history of illness commencing with an abrupt cessation of the menses, a symptom so often alluded to in text-books. In all except the fourth case, there had been long-enduring menorrhagia. Bernutz and Goupil (*Diseases of Women*, Sydenham Society, vol. 1, pp. 180-188) have narrated, from their personal experience, five cases remarkably similar to mine, occurring in women between the ages of twenty-one and twenty-eight. In all of them, "death took place either suddenly or after a short illness;" but the symptoms and the *post mortem* examinations showed that peritonitis, and not internal hemorrhage, was the immediate cause of death.

THE THERAPEUTIC SIGNIFICANCE OF THE CERVICAL FOLLICLES.—In a paper on this subject, read before the Northwestern Medical and Surgical Society of New York, June 17, 1885, Dr. Simon Baruch thus summarizes his conclusions: 1. A thorough knowledge of the anatomy, physiology, and pathology of the cervical follicles will simplify the treatment of many uterine affections. 2. The cervix uteri represents a large gland of active and important function in the various sexual relations of woman. 3. In the majority of the more common diseases of the uterus the mucous membrane and its follicles play the most important rôle. A recognition of this fact will make treatment more successful. 4. Metritis, subinvolution, hoperplasia with catarrh, erosions, etc., must be studied in connection with the glands of the cervix. 5. In obstinate cases medicinal applications fail because the secreting surfaces of the follicles are not reached. Scarification and the curette are valuable adjuncts in nulliparous women or in parous women without cervix laceration. 6. In parous women with lacerations, trachelorrhaphy is the most valuable procedure. As a simple plastic operation it will fail. Success depends on extirpation of the follicles, which is more important than "removal of the cicatricial plug." 7. The microscope demonstrates the dependence of catarrh, ulceration, erosion, and hypertrophy of the cervix, and often also of the body of the uterus, upon the glandular structure of the cervix uteri. 8. The cervical follicles are significant as elements in the pathology of cervix cancer, because the microscope demonstrates the dependence of the latter upon erosions, which are based upon the gland structure. 9. Laceration and erosion must be regarded with suspicion, as possible sources of future malignant disease. In operating for their removal, extirpation of the cervical follicles must be unsparing.

RAPID DILATION OF THE CERVICAL CANAL.—In a report on the diseases of women, published in the *Practitioner* (Journal of the Lancaster City and County Medical Society, Pa.), J. K. Shire says: I had recently under my treatment a very severe case of dysmenorrhœa in which the uterus was retroflexed and the os rather small. I considered this a favorable case for dilatation of the cervical canal, but found that, owing to the fact that the vagina was very narrow and consequently the use of a speculum impossible, I was unable to use my Ellinger's dilator. While thus puzzled, I happened to see some ordinary conical steel bougies which I had just been using in a case of stricture of the male urethra. The idea of using these bougies for dilating the cervical canal at once came to my mind. After first introducing a small uterine probe at the first examination, and an ordinary uterine sound on the following day, I commenced the use of the sounds which I found I could easily introduce without any speculum, by having the tip of the index finger of the left hand on the os uteri, and then introducing the instrument with the right hand. By introducing a larger bougie each day I soon succeeded in passing a Number 22 of the French scale. I mention this case only to show how well the cervical canal can be dilated by means of ordinary conical steel bougies, such as are used in treating diseases of the male urethra. One would naturally think that the sharp curve of these instruments would be a great hindrance to their introduction into the womb; but practically this is of very little moment, since the finger in the vagina can easily change the position of the womb so as to adapt it to the curve of the instrument.

THE OPERATIVE TREATMENT OF HEMORRHOIDS.—In a paper published in the *Nashville Journal of Medicine and Surgery*, for May, 1885, Dr. H. S. Duncan recommends the following procedure for the cure of hemorrhoids: He injects pure carbolic acid, slowly, until the whole surface of the tumor changes its color to a pale white or ashen hue. After giving the patient a few moments' rest he lays the dead tumor open, dividing it into two equal parts, and then with a pair of scissors cuts off each half, as close to the live tissue as possible, without producing pain or hemorrhage. After relating several cases successfully treated in this way, he claims superiority for the method on the following grounds: 1st. The operation is comparatively painless, there being no pain whatever after the injection of the acid, and then not of sufficient intensity to justify an anæsthetic, as it never lasts over one minute. 2d. It is a bloodless operation, as there is never a drop of blood seen except in highly inflamed tumors, when two or three drops may make its escape from the needle puncture before the acid is injected. 3d. The repair is much more rapid than after any other operation that he has ever seen performed. The patient never has to keep his bed more than one or two days, and can always resume business in from three to ten days, according to the severity of the case and the nature of his occupation. Dr. Duncan concludes his paper in the following language: To those who have been prejudiced by writers condemning the injection of acid, I will say that their failure to cure only arose from their not having completed the operation. When only a few drops are injected it not only fails to cure but leaves the parts in a worse condition than before. When a sufficient quantity is used to destroy the tumor, and the latter left to slough off, a very offensive odor and tedious recovery is the consequence. But when the operation is completed as I have described, it is safe, speedy, and sure, and you need not hesitate to perform it. After the operation I use a mild laxative for a few days, generally cascara sagrada, which I find very efficient, and direct my patient to bathe frequently with warm water and castile soap, and use a little vaseline, if necessary, to keep the wound softened.

THE TREATMENT OF STRICTURE OF THE URETHRA BY ELECTROLYSIS. —In a paper on "Electrolysis in Surgery," published in the *Journal of the Amer. Med. Association*, Dr. Robert Newman, of New York, says: "The most brilliant results have been achieved in this field of surgery by electrolysis. I have practised it just fifteen years, during which time I have improved myself, the instruments, and the method. It gives me pleasure to present to you here a tabular statistic of 100 cases of urethral stricture treated successfully by electrolysis without any relapse. Excepting the last few cases, all these patients have been kept under observation, and have remained well without any relapse for from three and one-half to eleven years. The proof that such patients remained well was given by an examination either by myself or by a reliable family physician, and in each case it was found that the same size of sound passed easily through the urethra, which had been used at the last séance so many years ago. These hundred cases may be called consecutive; they have been taken from my note-book of private practice, including such cases of patients who had returned for treatment and could be kept under observation. Necessarily I had to exclude from this list patients who did not return for treatment, or when cured were lost sight of."

AN OPERATION FOR DISPLACED SEMILUNAR CARTILAGE.—Mr. Thomas Annandale, F. R. S. E. (*British Medical Journal*), has adopted with success the following new procedure in a case in which the more simple methods failed to give relief or obtain a useful limb for the patient. An incision was made along the upper and inner border of the tibia, parallel with the anterior margin of the internal semilunar cartilage; and, the few superficial vessels having been secured, the joint was opened. It was then seen that this semilunar cartilage was completely separated from its anterior attachments, and was displaced backwards about half an inch. The anterior edge of this cartilage was now seized by a pair of artery catch-forceps, and it was drawn forward into its natural position and held there until three stitches of chromic catgut were passed through it and through the fascia and periosteum covering the margin of the tibia. The forceps were then withdrawn, the cartilage remaining securely stitched in position. The wound in the synovial membrane and soft textures having been closed with catgut sutures, a splint and plaster-of-paris bandage were applied, so as to keep the joint at rest.

THE COMMUNICABILITY OF CONSUMPTION.—Dr. J. C. Thorowgood, physician to the City of London Hospital for Diseases of the Chest, Victoria Park, relates the following case in the *British Medical Journal*, of May 2:

A woman from Edgware was admitted, under my care; and, when I had examined the upper part of her chest, I said that the apices of the lungs seemed clear. When I examined posteriorly, I found a well-marked cavity at the base of the right lung. The existence of this limited disease caused me to inquire rather specially into the history of the case, and I learned that this woman had for many months nursed her husband, who had died of consumption, and who suffered much in his throat. I remember observing to my assistants, at the time, that it really looked as if a germ of disease had been drawn by the patient into the right bronchus, and this had set up destructive disease in the lower part of the right lung. The patient left the hospital much relieved, and I have not heard of her since. We know, he says, that in warm countries, such as Italy and Spain, consumption is regarded as a contagious disease. He can understand this; for it is in such climates where the most active and rapid forms of consumption occur, and the disease is often brought to a high state of cultivation by the way in which the patients are confined to close, airless rooms. Tubercle-bacilli grow and multiply in a congenial soil, just like mushrooms on a dung-heap. In cold climates, the disease is very often of inflammatory origin, and fairly amenable to treatment. Practically, he does not think there is any risk to persons whose mucous membranes are sound and well nourished in attending upon those who are ill with any form of phthisis, provided the attendant do not sleep in a room with the patient, and get a due allowance of open-air exercise. When, however, any one who is about among consumptive people begins to cough, it is a sign of disturbed and enfeebled mucous membrane; the soil is being prepared for the bacilli; and at once such an one ought to get right away from all that savors of phthisis, and make a long sea voyage.

THE PROPHYLAXIS OF PHTHISIS.—In commenting on Dr. Weber's recent Croonian lectures on the hygienic and climatic treatment of chronic pulmonary phthisis, Dr. J. E. Morgan, of Manchester, writes to the *Lancet* an interesting account of the mode of life of the crofter of the northwestern highlands and islands of Scotland. "Many of them," he says, "live under the same roof as their cattle, and in numerous instances the air of the dwelling reeks with the impure exhalations given off from the excretions of these joint inmates of the cabin. These primitive dwellings are warmed by a peat fire kept constantly burning in the centre of the floor; the luxury of a chimney is often altogether unknown. The smoke which rises from the combustion of this fuel, after thoroughly diffusing itself through every nook and corner of the building, makes its escape by a hole in a corner of the roof. Now, it may be asked, how is the health of these persons influenced by inhaling constantly both by day and by night such an atmosphere as this—an atmosphere so pungent that considerable irritation of the eyes and nostrils is frequently experienced by those exposed to the fumes? Generally speaking, these Highlanders are remarkably vigorous and long-lived, and singularly exempt from the ravages of tubercular phthisis. Indeed, so rare is consumption in these hovels that I was lead to investigate the causes of this immunity upwards of twenty-five years ago, and published the results of my inquiries in an article on "The Non-prevalence of Consumption in the Hebrides and along the Northwestern coast of Scotland," which appeared in the *British and Foreign Medico-Chirurgical Review* for October, 1860. At that time I visited most of the districts to which my investigations extended, and from what I saw and heard, came to the conclusion that the comparative immunity from phthisis which these persons enjoy is to be ascribed, chiefly at all events, to the inhalation of the peat smoke and the antiseptic ingredients contained therein, the tar, the creasote, and the tannin, together with various volatile oils and resins. Black unctuous peat is rich in these substances. At that time, I need hardly say, nothing was known of the bacillus of Koch. It further appeared that any exemption from attacks of consumption which these Highlanders enjoy was only extended to them so long as they resided in their smoky huts. When they migrate to other parts of the country, or took up their abode in chimneyed dwellings, they often suffered like their neighbors; nor after the lungs once became infected was a return to the homes of their fathers followed by favorable results; the fumes of the smoky cabin then exercised no curative influence. The inference to be drawn from these remarks is sufficiently obvious; when the bacillus has once established itself in the lungs the time for antiseptic remedies has gone by. On the other hand, where there is merely a predisposition to phthisis, whether hereditary or acquired, where also the climatic or social conditions for its diffusion are favorable, and where healthy persons are brought into close contact with those who are suffering from the disease, there it is reasonable to assume that disinfectants may prove of great value as prophylactics. Hence we may anticipate that in the course of time an efficient system of aerial fumigation will not alone assist the physician in warding off disease, but may enable the surgeon also to dispense with the cumbrous appliances associated with antiseptic dressings and the steam-diffusing urn."

THE CARE OF THE NEW BORN.—In a letter to the *Med. and Surg. Reporter*, principally devoted to a consideration of the evils liable to result from immediately washing the new-born infant, Dr. W. J. Craigin, criticising an article by Dr. G. A. Hill, says: The heat from the warm water contracts the cutaneous vessels, and the evaporation of the moisture chills the surface. Incident to this is the prolonged manipulation during the bath under the absurd impression of having the body particularly clean. The length of time thus consumed in first applying grease, then soap, followed by the process of rubbing and scrubbing with cloth and warm water to remove the natural and artificial coatings, so prolongs the exposure of the nude body in a temperature much less than that of the infant previous to birth, that a shock follows which requires hours for reaction. As a result of this, see the cold and blue extremities, see the shivering body. Following the shock is a congestion of delicate vital organ or organs, terminating in some form of catarrhal or other disease. To the assertion that neutral soap and warm-water bath leaves the skin soft and not liable to become chafed I disagree. Can you assure me that strophulus, the red and white gum of the laity, is not the result of that soap and warm-water bath? Are not other cutaneous diseases also the result of that process? How many persons procure a neutral soap, or know when they have it? "After the washing the physician himself should dress the cord stump, for to be rightly done it is no unimportant matter. A soft linen or muslin roller, a little wider than the length of the stump, some mutton tallow, and a string, are all that are needed. The nurse holding up the cord by the end, the tallow is applied to the navel, and the roller is carried several times around it and secured with a string." The result of this manipulation will be a moist, discolored, offensive, unsightly dressing. Let art step aside in these instances and receive a lesson from nature. Allow the stump to dangle undressed, and you will be pleased to see how nicely it will dry, nearly devoid of fetor, and coil up against the abdomen, tramelling you less than the method you recommended. After a thorough application of grease, either lard or vaseline, a soft, loose flannel gown to envelop the body, and a napkin about the hips, is the proper dresssing, dispensing with shirts, skirts, and bands. In twenty-four or forty-eight hours it can have its first tepid-water bath, which is to be gone through with quickly, with little or no soap, This is followed from day to day until the stump falls, when I resign the charge to pride and fancy clothing.

THE USE OF SALT (*N. Y. Med. Journal*).—The unquestioned benefit derived from the salt-water baths in many chronic affections is undoubtedly due in part to the circumstances attending their use. The fresh air, the out-door life, the very exercise of bathing, contribute in a measure to the end attained; but the salt itself exercises an influence that is not to be overlooked, as it stimulates the skin, quickens the circulation, and often appears to promote the activity of the organic function. When we consider that the water of the sea contains only about two per cent. of chloride of sodium, with a varying but extremely minute proportion of other ingredients, we see how easy a matter it is to imitate it at home when the summer vacation is over, and thus to prolong the benefit and comfort that have been derived from salt-water bathing. A cupful of salt to the basinful of water is all that is requisite for a sponge bath; while those who possess the luxury of a metropolitan bath-tub will find that a peck of salt to the tub-full of water will yield a more prolonged enjoyment and corresponding benefit. The antiseptic properties of salt suggest a number of useful applications. In surgery and midwifery carbolic acid and corrosive sublimate have rendered great service, but their employment is not without danger, although comparatively weak solutions are made use of. Salt, even in very strong solution, would be harmless, and might possibly replace the more active antiseptics in many cases. As a cleansing application to foul ulcers and wounds salt solutions have been used from the earliest times. In cases of indolent action, with large, pale, and flabby granulations, the astringent effect of the salt would doubtless prove of service, as well as in many cases of excessive mucuous secretion. There is yet another application of salt, and one that certainly merits more extensive investigation, viz., the disinfection of night-soil and other sewage. In cities, a few handfuls of salt thrown daily into the water-closets, and an occasional handful thrown into the wash-basins, would go far, it is believed, toward counteracting the noxious effects of the omnipresent sewer-gas, against which sanitary efforts have so long been directed. In the country a quart or more of salt used daily in the privy vaults would serve an equally useful purpose.

HOSPITAL NOTES.

COMPOUND FRACTURE OF THE CLAVICLE (under the care of Mr. Humphreys, Salon Infirmary, Shrewsbury).—S. D., aged 18, was admitted on November 13, 1884. He had received a violent blow on the left chest from a heavy iron bar, causing a compound fracture of the clavicle on that side, at the junction of the inner with the middle third. Hemorrhage being very profuse, the wound was temporarily plugged with lint by a medical practitioner. On admission to the hospital, these plugs were withdrawn; bleeding had practically ceased. There was a wound in the skin large enough to admit three fingers, the deep fascia of the neck being widely opened, so that the finger could be passed back to the trapezius muscle, and freely in all directions. The fragments of the clavicle were exposed to view, the outer lying below and in front of the inner; the clavicular portion of the pectoralis major was also laid bare, and in part torn asunder. The wound and adjacent parts were thoroughly washed with carbolic solution, 1 in 20, and the wound dressed antiseptically with carbolic gauze. The patient was made to lie on his back in bed, the bandages being arranged so as to form a sling for the hand and elbow, no other retentive apparatus being employed. November 14. The temperature in the morning and evening was 99.4° Fahr. The wound no longer gaped as on the previous day, but was filled with coagulum up to the level of the skin. November 15. The temperature in the morning and evening was 99.6° Fahr. For the next four days there was a slight elevation of temperature, the highest record being 100.6° Fahr. in the evening. On November 17 a drainage tube was passed through the clot (a distance of 4 inches) on the supposition that there might be a collection of fluid pent up at the back, causing the elevation of temperature; this, however, was removed at the next dressing, three days later, when the wound presented much the same aspect, there being no trace of pus or odor. The further progress of the case was uninterrupted, and the temperature was always normal after the first week. The extensive wound healed by organization of blood-clot, and presented all the phenomena of that process. In five weeks from the injury, a small superficial granulating surface alone remained; and two weeks more saw the healing process complete, with a firmly united clavicle. The boy left the hospital well in two months, and returned to his work a fortnight afterward. The rarity and severe degree of the accident, the interesting course, and the successful result secured by strict antiseptic management, would appear sufficient plea for recording the case.—*British Med. Journal.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre	equal to	15	troy grains	water.
1 centilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. " "		455 69-100ths "
1 fl. gallon " "		231 cubic inches.
1 fl. pint " "		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

THE CHEMICAL COMPOSITION AND THERAPEUTIC UTILITY OF FRIEDRICHSHALL WATER.—Renewed attention has recently been directed to the peculiar medicinal value of this standard natural mineral water, especially in Great Britain, by reason of an improved method of caption which has been introduced, by means of which dilution is avoided; so that the water, as now furnished, is of considerably greater strength and efficacy than heretofore, as will be seen from the following comparative analyses, the most recent and authentic that have been made:

In 10,000 *parts.*

	Diluted.	Undiluted.
Total solid Constituents	378.00	613.96
Sulphate of Soda	98.08	182.39
Chloride of Sodium	166.60	246.24
Chloride of Magnesia	62.90	120.96
Chloride of Potash	8.21	13.76
Bromide of Soda	6.98	2.04
Carbonate of Soda	10.26	30.87
Carbonate of Lime	11.06	17.45
Sulphate of Lime	02.50	traces
Oxide of Iron	0.10	00.15
Salicic Acid	0.06	00.10
Carbonic Acid, semi-combined	9.12	13.68

This richness in sulphate of soda and the chlorides renders it especially serviceable.

The *British Medical Journal,* in its issue of April 25, 1885, says: Some further improvements are in course in the method of caption of this old-established and favorite mineral aperient water. These, by preventing the access of sweet water, and avoiding the dilution of the mineral water, will considerably increase its mineral strength and efficacy. Such improvement will doubtless be of considerable value, as it will enable the water to be used in smaller bulk, and, therefore, more conveniently than heretofore; and thus its efficacy, in practice, will be increased. The testimony of Bamberger, Frerichs, and Seegen, and other foreign as well as eminent British authorities, has for many years concurred in indicating Friedrichshall Water as an aperient which, for habitual use, is unrivalled. Its richness in chlorides gives it especial alterative value, and there is a great body of physiological evidence collected by Mosler and Mering, as well as clinical evidence from the hands of Sir Henry Thompson and others in this country, indicating the especial value of Friedrichshall in preventing the formation of uric acid, and establishing the fact that, unlike most mineral aperients, its dose may be progressively diminished during continuous use. The improvements in the methods of caption and of bottling the water, so as to free it from dilution, will no doubt add to its long-established popularity.

The London *Med. Record,* of May 15, 1885 says: That which essentially differentiates Friedrichshall from many of the aperient waters which are most in use, is its richness in chlorides; the effects of the sulphate and chloride of sodium combined, give to Friedrichshall Water a remarkable influence in promoting tissue change, and in producing the oxidation of the albuminoids. There is also a great body of evidence that it has a great advantage over other waters which owe their properties chiefly to the sulphate of soda and the sulphate of magnesia, inasmuch as the digestion is far less easily deranged by Friedrichshall Water than by its congeners. It has in Sir Henry Thompson's hands proved to be especially effectual, not only as an occasional aperient, but also as a digestive and alterative agent; and the favorable influences of the chlorides upon the processes of digestion and diffusion, and upon tissue change generally, are fully recognized by him as well as by the late Professor Frerichs and other of the most eminent German physicians. Its effect, too, is very mild in ordinary use, while it has the peculiar advantage that it may be employed in diminishing doses, while most aperients, as is well known, exhaust the energy of the bowel, and need to be used in constantly increasing doses. Thus, whereas the ordinary bitter waters, distinguished by their richness in sulphate of soda and magnesia, cannot be taken habitually with impunity, Friedrichshall, by reason of its richness in chlorides, cannot only be so taken, but is especially suited for that purpose. This peculiarity of Friedrichshall readily explains the favor with which it has been viewed for a series of years: but in this country, at least, the especial advantage of its high content of chlorides has hardly received the attention which it deserves. Friedrichshall is recommended by Thierfelder in Ziemssen's Hand-book in disorders of the liver; by Frerichs for gallstones and biliary colic; by Nauman in diseases of the heart and blood-vessels; by Eisenmann in the congestions of pregnancy; and by Scanzoni very especially in the ordinary constipation of pregnant women. It is a highly efficient alterative, correcting disorders of the blood. A completely special application of Friedrichshall is found in the treatment of the affections incidental to constitutional debility in children, especially in the scrofulous forms. In glandular swellings, and affections of the skin and eyes, with thickening of the tissues and constitutional torpidity, Friedrichshall has, with suitable diet and open-air exercise, in the hands of Helft, Mosler, and Löschner, been found to be a potent agent. Löschner, indeed, says that there is scarcely a more powerful anti-scrofulous agent than Friedrichshall Water. The recent researches of British physicians and physiologists, such as Ringer and Hayes, have added greatly to our knowledge of the relative importance of the chlorides and sulphates in bringing about diffusion changes and in stimulating the action of the bowel. These researches have tended greatly to increase the value set upon a water such as Friedrichshall, which is so rich in chlorides; and thus, no doubt, a more extended use of this water may henceforth be looked forward to in this country.

In regard to the physiological effects of Friedrichshall Water, Professor Mosler, of Griefswald, who made an extensive series of experiments with its use in Wills's laboratory, has thus summarized the results noted:

1. The general health is not at all disturbed by even large doses of the water; the appetite and power of digestion being actually increased, instead of diminished, under the circumstances.
2. Small doses do not diminish the body-weight; on the other hand, large doses diminish it.
3. Small doses merely relax the bowels; large doses cause watery stools.
4. The use of Friedrichshall Water increases the amount of urine, and of its contained solids, especially urea.

Dr. von Mering, of Strasburg, has also made an exhaustive examination of the effects of the water. His results, which are published in the *Berliner Klinischer Wochenschrift*, confirm those of Mosler, and, besides, show some additional points of interest. As regards the urine, the excretion of phosphoric acid was found to be increased four per cent. beyond the usual amount. In accordance with Professor von Voits's experiment on the influence of sodium chloride upon the oxidation of albumen in the body, with consequent increased formation and elimination of urea, Dr. von Mering regards this latter effect of the use of the water as due to the chlorides contained in it, and he finally observes: "In Friedrichshall Water we obtain the combined effects of the sulphate and chloride of sodium, and hence it results that other natural aperient waters, containing little or no chlorides, have not the same effect as Friedrichshall Water, which on account of its large percentage amount of chlorides, and its great influence on the oxidization of albumen, possesses essential advantage over other bitter waters from more than one point of view."

Finally, the most recent authority, Prof. Thilenius, editor of the ninth edition of "Helfft's Balneotherapie," remarks that, "On account of its chlorides, Friedrichshall water is more suitable for continuous use than other waters not containing chlorides, inasmuch as the digestive organs are far less easily deranged by it."

The following are a few of the opinions in regard to the medicinal uses of Friedrichshall, by some of the most eminent European authorities. Sir Henry Thompson, already quoted in the articles in the *British Medical Journal* and London *Medical Record*, says of it: "As an occasional aperient and corrector of digestion, I know nothing at all equal to Friedrichshall. It leaves the patient less constipated after discontinuing it than he was before, and, as already said, it may be taken habitually without lowering the system."—*Lancet.* In regard to the peculiar efficiency of the natural combination of the medicinal agents found in the water, Sir Henry Thompson says: "If you have taken seven ounces of Friedrichshall water an hour before breakfast, and soon afterward a cup of hot tea or coffee, you will have a full, free action of the bowels, perhaps two. That, you see, would be about 25 grains of sulphate of soda and 20 grains of sulphate of magnesia, which, taken in any combination you like out of a druggist's drawer, would have no appreciable action; you might be a little uncomfortable, perhaps, but there would be no action of the bowels. If you administer four times the amount of salt which exists in a dose of natural water, you would still not have such efficient or such certain results as from the small amount (in the natural water) named above. So that there is something which I do not pretend to explain . . . which distinguishes the action of mineral water from the action of salts which are produced pharmaceutically."

In a lecture before his class in 1877, the late Professor Frerichs said, in some remarks on the use of aperient mineral waters: "If it is merely desired, by increasing the secretions of the intestinal glands, to render more fluid and evacuate the intestinal contents, all (the bitter waters) are more or less according to the amounts of magnesium and sodium sulphates which they respectively contain, unequal concentration being compensated by giving larger or smaller doses accordingly. But you must only do this occasionally, for by their continuous use the processes of digestion and blood-formation are essentially injured, and in weak anæmic individuals the general health may be considerably affected—the more easily the more concentrated the water, and the stronger its influence upon the intestinal mucous membrane. The effect is very different, however, when, besides the above-named salts, large quantities of sodium chloride are present, as in Friedrichshall Water, for now we have the favorable influence of the chloride upon the processes of digestion and diffusion, and upon tissue-change generally; the effect is milder, less exhausting, even after prolonged use, and consequently more permanent." In speaking of biliary colic Frerichs says: "In order to hasten the passage of the stone, the more gentle aperients, such as the Friedrichshall bitter water, are best adapted; they best assist the transference of bile and concretions into the intestine." This water is also specially recommended in congestion of the liver and interstitial hepatitis by Thierfelder in his treatise on the liver in Ziemssen's Hand-book, Bd. viii. Friedrichshall is highly prized on the Continent in the treatment of hemorrhoids dependent upon habitual constipation, and in this connection Mosler says: "In so-called abdominal plethora aperients are of great service, especially the use, for a long period, of Friedrichshall Water." Weber says (Deutsche Klinik): "If we may look upon the quantity and distribution of the blood as the chief factors in disease, then Friedrichshall Water is still more strikingly recommended to our use as one of the most curative remedies. I refer to the condition termed 'plethora'—the 'plethora ad vires' of the ancients—the underlying cause of which is sometimes an excess of blood generally, sometimes its unequal distribution in the various systems and organs of the body."

Weber and many other physicians also testify to its good effect in bronchial catarrh, both acute and chronic; the aperient and diuretic properties of the water combining to relieve the lungs of considerable work, while the chlorides contained in it lessen the viscidness of the bronchial secretion and thus facilitate expectoration.

Eisenman says, that the congestions so frequent in pregnancy are relieved with ease by this water, and even albuminuria in this condition may be much diminished or altogether cured by its use. He also states that in gastric troubles it has proved itself to be valuable, whether the derangement of the stomach be due to errors in diet (as by the immoderate use of beer), or is due to debility from old age. Naumann has used Friedrichshall with success in the irritability of the heart, with derangements of the general vascular system not infrequently seen in young people of both sexes. In some of these cases in which it proved of service, there was severe headache, only relieved by free bleeding from the nose; in others much palpitation of the heart, a dry, paroxysmal cough, frontal headache, and a copious nasal secretion; and in others again, palpitation, epigastric oppression, constipation and colicky pains. Frankel states in Ziemssen's Hand-book, Bd. iv., that he prescribes it for vicarious epistaxis, or that depending on congestion.

In hypochondriasis, melancholia, and other nervous troubles, Estenmayer, Damerow, and Harmsch have employed Friedrichshall with very happy results, and its good effects in some of the diseases peculiar to women, especially in chronic congestion or inflammation of the uterus, have been noted by Mosler, Scanzoni, Voit, and Schröder. Bartenstein and others have also found it effectual in chlorosis. Mosler and Helft both recommend it, in connection with other suitable measures, in some of the forms of scrofulosis, and Löschner, of Prague, thus speaks of it in this connection: "We have found, by practical trial in the children's hospital here, that when given in appropriate doses, and in conjunction with a fitting diet and the necessary exercise in the open air, there is scarcely a more powerful anti-scrofulous agent than Friedrichshall Water." Dr. Johannes Weber testifies to its success in the treatment of catarrh of the bladder, and, to refer once more to the eminent British surgeon, Sir Henry Thompson, in his clinical lecture on "The Early History of Calculous Disease and the Treatment Best Adapted for its Prevention," advocates its prolonged use in the strongest possible terms.* It must not be forgotten that Friedrichshall should not be taken cold, but mixed with hot water, and that if its taste is objected to (which is seldom the case) a few drops of lemon juice will render it sufficiently palatable.

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* In this country Friedrichshall has long enjoyed a well-deserved popularity, and Dr. Fordyce Barker recently wrote concerning it: "I have been very much in the way of prescribing the Friedrichshall water for some years, and have found it particularly useful in the constipation of pregnancy."

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

NEW YORK ORTHOPÆDIC SOCIETY, STATED MEETING MARCH 26, 1885.

Special Report for Gaillard's Medical Journal.

CASE OF HALLEX VALGUS, BY DR. J. A. WYETH.

Mr. President and Gentlemen: These two casts of the foot are taken from the left foot, one before and one six weeks after operation.

The patient is a farmer by occupation, a native of New Jersey, aged forty-six years. He was in the very best physical condition, with the exception of this hallex valgus of both feet. The same operation was performed on both feet and with the most happy result.

The patient could not give any intelligent cause of the disease, but from the condition of his muscles I think it was due to some contraction, especially of the extensor muscles, including the extensor brevis digitorum. He gave a history of rheumatism and also of having worn shoes that were not cômfortable, but this latter is a common statement in these cases. He had been acquiring the disease for the last eight or ten years, until he was completely incapacitated for physical exertion. The operation was insisted upon because the man could not work any more.

A longitudinal incision was made at the joint and wedge-shaped pieces taken out, in all about three-fourths of an inch of bone of both feet. The man was kept in bed about six weeks after the operation.

The osteotome with which the bones were removed I now present for your inspection; the same was shown before the Pathological Society some months since, and was also published in the *New York Medical Journal*. I have used it in some twenty to twenty-five different cases of operations about the joints, with the exception of the knee joint. I do not claim any originality for it, as it is simply a modification of the osteotome introduced by Mr. Gowan, of Guy's Hospital. His instrument, however, needs at times two or three hands to operate it, while this modification can be controlled by one hand, and as soon as the saw is fastened into the bone it can only describe the arc of a circle, and it runs readily through the bone, making a very neat division.

The objection which has been made is that the pressure of the blades of the forceps upon the bone will crush it; but such is not the fact, for it has never yet occurred. The instrument is so made that the saw can be removed and changed from left to right, or *vice versa*, to work upon either side of the body.

LUXATION OF THE PATELLA, CASE BY DR. LEWIS HALL SAYRE.—This young man, some sixteen or seventeen years ago, while wrestling with a schoolmate, wrenched his knee very severely. He was treated for an ordinary sprain of the knee joint, and not much attention was paid to it, the pain shortly afterward passing away.

He is remarkably strong and healthy, and has a good, useful leg for all practical purposes, and can walk as well as anyone. As he now stands, the only thing that is noticeable is that the patella is a little thickened, and the ligamentum patellæ is extraordinarily developed and slightly to the outer side. But as he now flexes his leg almost to a right angle, the patella commences to glide outward, over the outer condyle, and upon flexing the leg upon the thigh to an acute angle, the patella is completely luxated outward, having passed over the outer condyle of the femur, and thus leaving the space between the condyles almost flat, the outer condyle having been partially worn away by the friction of the patella over the same. Further than what I have mentioned, there is no abnormal condition of the joint. There is no effusion or pain whatever, and while at college the young man has played football with his classmates and not thought about the knee.

His object in coming to me was to secure my opinion as the future utility of the limb, as he wished to enter the ministry and engage in missionary work, and two physicians whom he had consulted in regard to the same had given adverse opinions. I, however, see no reason why he should not follow such a calling, as the luxation of the patella causes him no inconvenience whatever.

DISEASE OF THE KNEE-JOINT. TWO CASES BY DR. M. JOSIAH ROBERTS. These two cases I have brought here for the purpose of contrasting the treatment of knee joint disease by mechanical treatment, with that of operative procedures; the latter being the subject of the paper this evening.

The first one is a patient who had knee-joint disease with an abscess at the time he came under my treatment, eleven months ago. I wish, also, to exhibit the patient as a living illustration of the feasibility of treating inflamed joints by methods which are diametrically opposed to those usually recommended by the profession. Namely: fixation and rigid traction of the joint. It is usually supposed that the greatest degree of immunity from danger is obtained by fixing the joint and making rigid traction upon it. But from the beginning of treatment with this patient at every step the joint has been moved. He presented, at that time, an enormous abscess, the scar of which yet remains. He has been treated by elastic traction and elastic circumferential compression; also with freedom of motion of the joint.

The little instrument which has accomplished this I here show you, weighing only a few ounces; and those who have used those other splints would be alarmed at any effort to protect inflamed joints by such an apparatus. The philosophy of the mechanism is this: that the impact of the foot instead of being transmitted through the rigid shaft along the entire column, is received upon elastic buffers, and the vibratory impulse which resulted from the concussion of the foot against the ground is not observed.

I may illustrate the principle by simply taking a non-elastic strap and an elastic one. If I take a rigid strap and make sufficient traction to relieve the reflex spasm and inter-articular pressure with the patient at rest, and then permit the patient to walk, there is a bagging of the strap as he walks and the articular surfaces are brought together, so that the traction is only while he is at rest. If I now take an elastic strap and apply in a similar manner to my instrument, I get constant traction and considerable range of motion by this means. This is advocated upon demonstrable physical laws. In this case I think I will be able to discharge the patient cured in about three months, providing the proper manipulation of the muscles be instituted. The child has voluntary motion of the knee-joint, as you see, and thus, as I say, was an exaggerated example; the disease existing one year prior to my treatment, and the abscess closing within three months after coming under my care.

The second case here shown has been under treatment not quite three weeks, not having walked for some ten weeks previous. At that time she had an enormous abscess, which is at the present time discharging.

Elastic circumferential compression was applied with the splint, as in the former case, which gave immediate restoration to voluntary articular motion. This restoration is possible within forty-eight hours after the application of such mechanical treatment in any case, however exaggerated the case may be. I would like to have the gentlemen interested in these cases examine them for themselves, for we have all been taught that rest and protection are only secured by fixation and rigid traction.

The protection afforded by the splint upon this child is analagous to that afforded by nature to a healthy joint; and one of the best means to do this is to break the linear continuity of the bony skeleton. If we occupy a crouched position this is accomplished, and if we then place elastic buffers between the joints, we have two of the most prominent factors of intercepting the conduction of jars. These are true traumatisms which we seek to avoid in joint disease.

It matters not whether it be in the hip or ankle, or segment of the spine, the same principle is adopted in all. By this means we at once take these reflexly contracting muscles and place them under the influence of the will, where nature designed them to be, and with power to utilize them in the face of danger.

The mechanism of this instrument must be thoroughly applied and understood, and the surgeon must understand the physics of protection or it will result in a failure. I claim that by this method recoveries can be brought about in one-half to one-third of the time that they are brought about by the other plan. During ordinary locomotion no linear support is exerted by the metallic part of the instrument; the patient walks upon elastic buffers, and whenever the elasticity of the straps is about to be exceeded, the instrument bends, as in the case of an ordinary accidental misstep. In such a case there is a joint here which absolutely enforces the flexion of the instrument.

This patient has voluntary motion of the joint, and if you choose to examine it, I will expose the joint. Now, instead of using elastic bandages, I use elastic stockings, which hold the adhesive plasters in place upon the leg, and with more equable pressure. This patient came in here walking, as you saw, and here are the evidences of disease which none of you can mistake. Of course the amount of motion is limited by the extent of the inflammatory products in and about the joints; but as these inflammatory products are absorbed, just in that proportion does motion of the joint increase.

Paper read by DR. J. D. BYRANT.*

EXCISION OF THE KNEE JOINT FOR CHRONIC DISEASE.

Discussion upon the paper.

DR. A. S. ROBERTS, of Philadelphia:—It is with some hesitation that I open the discussion upon so important a subject. At the same time, I feel as though I should like to express my gratitude to Dr. Bryant for the able paper presented this evening. I think this question of excision of the knee joint has its place in orthopædic surgery. There is a limit to conservative surgery, and the question for us to decide as to when we should excise the joint is an important element in the treatment of joint surgery. This, I think, depends upon two things; first, a knowledge of the etiology of the disease, and secondly, that familiarity with this department of medical science which comes from a long and careful study of joint troubles. Only within the past week I performed an amputation of the thigh, which is now doing well. Afterwards I found that the entire internal condyle was involved in the disease, and yet in the external condyle we had a reparative process, showing that we may have these two conditions existing at the same time. This same condition has been recognized by others, and was well illustrated in my case; therefore I think this question of excision is only to be decided upon after a long and careful study of these inflamed parts.

The only remarks I have to make upon the operation itself is, that Dr. Bryant makes his incision much higher than we do. At home we make our incision at the insertion of the ligamentum patellæ, and I do not see that the incision here has done any better than ours.

DR. M. JOSIAH ROBERTS.—I wish to express my gratification at having the opportunity of seeing so admirable a result of excision as this one. There is no question about the propriety of the operation in certain instances, especially in these examples of the disease occurring in hospital practice, where the number of our institutions which furnish any appliances that will enable the surgeon to handle such cases, except by operative procedures, is extremely limited. The subject of early operation was alluded to in the early history of knee joint disease, as in most other joint diseases. The lesion, as has been shown by Dr. Judson on hip disease, is a central one; it has not, as a rule, involved the articular surfaces; occasionally, however, the articular surfaces are involved. If, now, we resort to excision in these cases, we must not only excise the diseased inflammatory focus, but we must excise healthy tissue. It was this fact which led me to propose, some four weeks ago, before some of the best skilled of the profession, an operation which has been based upon theory and experience; namely: the excavation of the diseased portion only, as a substitute for the complete excision of the joint. I here show you what I mean by this bone (showing humerus with an excavation of about 3-8 of an inch in diameter drilled into the head of the bone). In this case we do just what Dr. Bryant has done in these cases, except cutting across the ends of the bone, viz., scoop out the diseased cancellous tissue.

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*See page 119.

There is a period in the history of the disease, especially in the early history, where the articular surfaces are not involved. The temperature referred to I have experienced in operative procedures where there was no other cause than a tight dressing; and this being removed, the temperature felt at once. I think the statement of Dr. Bryant in regard to the strength of the ligaments in healthy joints should be borne in mind. There can be no doubt that there is an enormous strength in ligaments, as is sometimes shown by gymnasts on the stage. By relaxing the muscles and permitting the strain to come upon the ligaments, I have seen a man hold a whiffletree with a horse hitched to it, and the horse could not pull it out of his hands, because the ligaments were capable of resisting this enormous traction.

DR. BRIDDON: Mr. President, I would like to make a few remarks in reference to the operative details, which I think are important. Among those mentioned was the necessity of the complete removal of all granular tissue in the neighborhood of the operative wound; not only in the bony structures, but in the sinuses. There is one other detail which I would refer to, and that is the wiring of the bones together. It would be exceedingly desirable if the bones could be maintained in apposition without the introduction of wire sutures, since the cancellous tissues of the bone are extremely porous, and the only part of the bone that will hold the wire is the dense, compact bone outside, the wire cutting through the cancellous tissues without any difficulty. The nails introduced lately for this purpose being about four or five inches long, answer a better purpose, and maintain fixation more satisfactorily; but sometimes the sinuses left behind these nails are bad. Having a case of this kind to operate on to-morrow, it has occurred to me within the last few days that it would be proper to introduce nails at a distance from the section of the bone, that is to say, to introduce them perpendicularly at about one inch from the cut surface on either side, driving them in through the skin and bony tissue, so as to leave a half inch of the head of the nail outside of the skin tissue; then approximate the surfaces by copper wire twisted around the nails projecting. I think by that means no destruction of the bone-substance would occur, and it would also give a much better support. I think also that by wiring the extremities of the nails as I have said, allowing for the swelling, the same fixation would be obtained without the unpleasant results from wiring, and there would be no difficulty in removing the wire from the nails; while we sometimes find it troublesome to remove our wire sutures at the end of six or seven weeks in these cases. Nails could be removed very easily, and the introduction of a catgut or a horse-hair drain would prevent the formation of resulting sinuses.

As to the dressing, I think the application of an anterior and posterior splint gives the most comfort to the patient and causes the least disturbance.

In one case at the Presbyterian Hospital three months ago, only one splint was applied, the operation being performed under the bichloride douche and dressed with iodiform gauze. At the end of thirty days the dressing was removed, and the wound was found entirely healed, except at one point, where a safety-pin had been applied to a bone drain. But there is about the same lack of union as exists in these cases present.

If the use of nails as well as wiring could be done away with, it would be of great advantage. This operation I speak of was performed three months ago, and no nails or wire were used, the surfaces being simply brought into apposition and so maintained, and there is not the slightest misplacement or deformity. Whether some of the tissues of the anterior surface were wedged in I am not prepared to say; but in a former case I adopted the plan as recommended by Dr. Bryant, using a piece of string, and it was held there, maintaining the soft tissues and keeping them from contact with the bone until the bone wound was closed.

In regard to the cases in which this operation is proper, I do not think there is any case in which it is not proper when all other means have been tried; and in all cases which a few years ago would have been submitted to amputation I think excision is proper.

I propose to-morrow to make an excision in a case which formerly I should never have thought of passing without amputation. Not three months ago the man fell and ruptured the soft tissues of the joint, and when I saw him he was in a desperate condition; the knee had been poulticed; no knee-splint was used; there was a fungous condition of the joint, with sinuses in every direction. Last night his temperature was 104 deg., but still I intend to operate to-morrow, and scrape out all fungous growths that may be there. With regard to operating in pseudo-arthritis, I think there is no doubt as to the fact of gouging being preferable to excision. German surgeons in the last year have advocated incisions through the soft parts where upon concussion of the joints they find tenderness. Their experience has been such that they almost always arrived at some focus of disease in the cancellous structures of the bone. In those cases where tubercular masses are found, I believe that this procedure will be attended with success in a large majority of cases.

Dr. PILCHER, OF BROOKLYN.—If I were to say anything, Mr. President, it would be in a very few words, to call attention to what has seemed to me important and one of the chief difficulties with interference with disease in the joint or its neighborhood, viz., that we have looked upon it as a purely surgical procedure, that there was a certain classical surgical operation which was in question, instead of looking upon the diseased condition and why it involved the cavity of the joint or bone in the immediate vicinity. Instead of looking at this diseased condition as one we would treat if it was in any other part of the body, we have been led into confusion by the fact that it involved a joint, and the traditions of surgery have been such in the past years as to cause all conditions of joints to assume an undue proportion. It seems to me that if you have a disease, a progressive degeneration in the tissues or neighborhood of the joint, there is but one surgical procedure for us to adopt, and that is the employment of ordinary treatment, such as we offer to the natural resisting power of the tissues and the reparative power of the person. If this fail, there is left but one thing to do, viz., find the disease and eradicate it. There is, then, no confusion between those who would apply mechanical treatment and those who would come to a surgical operation; the one precedes the other.

It seems to me that we have made a mistake in the past in endeavoring to take such slices of bone from the parts, and that if we will only eradicate the disease we may leave the result to time. I would, however, take issue with Dr. Briddon as to there being no cases in which it is not proper to submit to operation by excision. I think we will, from time to time, meet cases where, either from the character of the difficulty or malignity of the disease, the trouble has extended so far that an excision would not give us a useful limb, even if it were done; and if it were done, we might leave diseased structures in the bone. I think in those cases the best treatment would be amputation.

I am inclined to believe that we have gone too far in the line of conservative surgery, and that many cases would have been benefited by amputation more than by the conservative measures adopted.

Dr. WYETH.—I want to say this—that the incision of Dr. Bryant is the best that can be made; that which goes well behind the bone offers the best chance of drainage. I have been in the habit of using a rubber drain, and this is allowed to remain until recovery. As to wires, I have never had any trouble with them. Gouging, I think, is preferable where there is an osteo-arthritis; but the operation spoken of, of drilling into the bones and scooping out the diseased tissue, is not a new operation. It originated on the other side and has been performed by McNamara over thirty times.

The bracket splint I believe to be the best.

Dr. LEWIS HALL SAYRE.—I have here two specimens which bear upon the subject of Dr. Wyeth's remarks in relation to hallex valgus.

This sketch was taken of the foot of one patient who was seen by Dr. Bryant, and who assisted me in the operation a year ago last September. The patient was a naval officer who suffered from hallex valgus of both feet, and he came on to New York to see if he could not get relief before being put upon the retired list.

I removed the head of the first metatarsal bone of both feet, sub-periosteally and antiseptically, inserting a horse-hair drain in the wound and closing it with black-silk sutures, no splint being used. At the end of three weeks he was discharged cured, and returned home, the wound having been dressed three times during his stay under treatment. One year from the date of the operation he called upon me and said he never thought of his feet, as he could walk any distance, and no sign of pain or soreness in the feet was experienced.

The second case was that of a young lady upon whom I operated in a similar manner, just six weeks ago. To-day she walked around to my office, a distance of three blocks. Everything occurred in the same satisfactory manner as in the former case, and at the end of a week she will return home. In this case both joints are perfectly movable.

Dr. EDWARD DEVELIN.—Mr. President: In relation to the remarks made by Dr. Roberts, regarding the fixation and rigid traction by means of splints applied to the joints, I would state that I have had the opportunity of both applying such splints and seeing them properly applied. But I have not seen one of these splints which, when properly applied, would allow of *bagging* of the straps or bandages when the patient commenced to walk. Such a remark, therefore, is utterly false as regards these splints when properly applied; and anyone who should apply them in such a manner as to allow of this bagging when walking, would only show his ignorance of the correct method of application.

In regard to applying the splint to the patient while lying down, this is often convenient; but at the moment the patient rises, extension is made by means of the ratchet and key, until the patient states that he is comfortable In such a case no concussion of the joint can possibly occur, if the splint is properly applied.

ORIGINAL CORRESPONDENCE.

LETTER FROM PARIS.

15 Rue Caumartin.
Paris, June 23, 1885.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: I renew my correspondence with the JOURNAL under painful circumstances. Since my last letter was written, two cherished friends have paid the debt of nature. Dr. Edwin S. Gaillard, and Dr. Noel Gueneau de Massey are no more. Previous to the war I only knew Dr. Gaillard casually, but having been brought into intimate relations with him during the struggle, our acquaintance ripened into a warm and enduring friendship. Reticent and reserved by nature, he gave his heart to but few men, and yet when he did surrender it, there was no compromise in the act—he gave it without reservation and beyond recall. His was not a friendship that quickened in the sunshine and lapsed to inertness when the shadows gathered, but it was a sentiment incapable of abatement or variation. To those whom he loved, he was the most confiding, tender, and devoted of men. Investing his friends with the attributes of his own noble nature, his faith in them was absolute, and his love for them supreme.

Though brave to a fault, there was nothing of rancor or malignity in his bosom. His shafts were aimed, not at individuals but at their vices and delinquencies. He wounded in no spirit of personal malice, but to remove some moral excrescence which offended his sense of right and his idea of propriety. Despising all that is ignoble and false, he ran a tilt against vice in every guise and wherever it showed itself.

To me his friendship was ever a consolation and an inspiration, for the consciousness of possessing the confidence and regard of a nature so pure, brave, and true as his was at once a source of profound satisfaction in itself, and an inspiration to the cultivation of his virtues and to the imitation of his example.

His death is a great calamity to the profession. Though not a practitioner of medicine, nor the occupant of a professional chair, he sustained a relation to his *confreres* of exceptional influence and usefulness. He was a born editor. He was gifted by nature with all of those qualities which constitute genius in a journalist—acuteness of discernment, capacity for analysis, facility in the expression of ideas, enthusiasm in work, and an independence of spirit which nothing ever daunted or restrained. Hence it was that his journal was universally recognized as an authority—as the most advanced, practical, and reliable of American medical periodicals. Hence it was that, through its instrumentality, he became the Gamaliel at whose feet teachers, authors, and all who desired instruction delighted to sit, and to drink from the fountain of his exhaustless knowledge. And hence it is that his death is so universally deplored as a loss to science and to humanity—that the world of medicine realizes that one of its brightest luminaries has been extinguished.

"After life's fitful fever he sleeps well," undisturbed by the cares of existence, beloved by those who really knew him, and lamented by the profession to the advancement and elevation of which he consecrated his entire life. Peace to his ashes, and eternal honor to his memory!

In the last letter which I addressed to the JOURNAL, I gave a brief sketch of the character and career of Dr. de Massey. Little did I then dream that it would so soon be my sad duty to chronicle his death, and to offer a tribute to his memory. In the last consultation which I had with him, I found him profoundly distressed by the loss of a favorite son, and I learn that his melancholy deepened until, under its burden, and the strain of his immense practice, he was compelled to seek diversion and repose in the south of France. The change of surroundings failed to give the desired relief, and he returned to Paris a few weeks since, a confirmed invalid—to linger for a brief period, and then to die in the bosom of his adoring family.

He was one of the few really great men of whom modern French medicine could boast. His last work—that on Typhoid Fever, to which I have already referred—is a master-piece, and fully attests the vigor of his intellect, the fidelity of his observations, and the copiousness of his resources. In a word, it shows that he was really a great physician, and secures for his name a commanding position in the rôle of his country's most illustrious men.

As a man he was a splendid type of humanity. Dignified, courteous, gentle, and loyal to the last degree—to know him was to respect, honor, and love him. Some of the best blood of France coursed through his veins, and *noblesse oblige* was written in every line of his handsome face, every tone of his winning voice, every movement of his graceful person, and every act of his well-spent life. Having made his acquaintance under circumstances which afforded me an opportunity to test his heart, I found it of the purest gold—without a taint of alloy or a trace of counterfeit.

As a *consultant* he was admirable in all regards—respectful to his colleagues, considerate of his patients, correct in his judgments, and specially happy in his suggestions of means of relief. Unlike his countrymen generally, he was a subscriber to the leading English Journals, and faithfully studied the works of foreign authors as they issued from the press. Being thus *au courant* with the progress of medicine beyond the limits of France, consultations with him were not matters of mere formality, as with his compatriots generally, and hence, in general practice it has been my habit for years to avail myself of his knowledge and experience when cases of difficulty presented themselves. I therefore feel not only that I have lost a cherished friend, but a reliable coadjutor—one upon whom I could depend not simply for a division of responsibility in emergencies, but for real assistance under all circumstances.

His admiration for America and American physicians was profound, and he delighted to recall his associations with Van-Buren, Bigelow, Hammond, and other distinguished members of our profession.

He was a man of sorrow. Death repeatedly invaded his domestic circle, and claimed as its victims children whom he loved most fondly; but, sustained by the precepts of a religion of which he was a proud examplar, and the obligations of a profession to which he had consecrated himself, he sought consolation in the discharge of his duties as a physician, and went through life ministering to the necessities of others—when his own heart was aching in every cell and fibre. He served me faithfully as a physician and a friend in a time of supreme trial and affliction, and while identity remains, I shall remember him with gratitude, and shall teach my children to honor his name and to revere his memory.

The eyes of the medical world are now turned to Spain. In the city of Alcera, Dr. Ferran is attempting to arrest the progress of a cholera epidemic by a process of inoculation. Taking the hint from Pasteur's experiments with carbuncle, chicken cholera, and rabies, he prepares a broth containing the bacilli of Koch—originally obtained from Toulon and Marseilles, and attenuated by successive cultivations—and of this liquid he injects subcutaneously in each arm from two *millimetres* to a cubic *centimetre*, with the result of causing temporarily a bruised feeling at the point of introduction, general malaise, and a slight fever. In specially sensitive persons, inoculation has produced more decided symptoms. After the lapse of six hours there have been developed intense pain in the arms, faintness, vomiting and diarrhœa, with cramp in the extremities, burning in the epigastrium, intense thirst, and marked fever—simulating an attack of cholera, but without a fatal result in any instance.

Out of a population of 20,000, some 5,300 have been thus inoculated, of whom only five have had the disease, and in a mild form. In one house two children died of cholera, when a third was inoculated. In a few days he had the disease, with all of the symptoms which had characterized the other cases, but of a far milder type, and with a prompt recovery.

Dr. Ferran does not believe that the preventive power of the induced disease has been positively established, but he is convinced that its modifying effect is incontestably proven. It is not, in fact, to be expected that the inoculation of cholera will prove an absolute protection against the disease, inasmuch as this cannot be asserted of any inoculation, not excepting that of smallpox. Should it prevent the development of cholera in a certain percentage of cases or mitigate its intensity when developed, Dr. Ferran will have conferred a great boon upon humanity, and will deserve to rank with Pasteur and Jenner.

Two remarkable things have appeared in this connection, viz., immunity is not obtained until after the lapse of several days—thus an attack of cholera supervening within five days subsequent to inoculation, is not influenced by it; while the immunity conferred is only transitory, so that it is necessary to repeat the process as often as every four or six weeks in order to perpetuate its advantages.

These experiments have naturally attracted great attention in Europe, and the French Government has dispatched a special commission to investigate it on the spot. As Brouardel—the most indefatigable and conscientious of French scientists—is at the head of this commission, the matter will certainly be most thoroughly investigated, and the exact truth respecting it determined. It will be soon known whether Ferran is destined to rank with Pasteur or with Foville—whether he is to descend to posterity as a public benefactor or as an arrant humbug. It is earnestly to be hoped that his supposed discovery will stand the test of the investigation to which it is to be subjected, for cholera heretofore has despised the obstacles with which human ingenuity has sought to restrain its progress, and has pursued its march as if sanitary restrictions and preventive agencies had no existence.

A very singular political complication has been evolved out of its existence in Spain. The young king, prompted by the same spirit of chivalry which carried him to the earthquaking districts of last year, proposed to visit the localities in which cholera had manifested itself; and his ministers, with older heads upon their shoulders and cooler blood in their veins, vehemently opposed this exposure of his majesty to the perils of such a venture. The populace of Madrid, taking sides with the ministers, have shown so insubordinate a spirit that the king has been forced to yield to their wishes, and to abandon his journey. That microbes should play so important a rôle in the politics of a country as to jeopardize the existence of a cabinet, to compel a king to forego his royal pleasure, and to drive a people to the verge of revolution, is an incident which has been reserved for the nineteenth century. But, as history ever repeats itself, I should not be surprised to witness similar scenes in Paris—with the royal personage omitted, of course—should cholera re-appear during the coming season; for its recent visitation ruined multitudes of tradesmen, hotel keepers, and others who depended upon the presence of strangers for a livelihood. By the diversion of the tide of travel from this metropolis, and the exodus of its foreign residents, all such persons lost very heavily; and they will scarcely be able to restrain their indignation should a similar calamity befall them, especially as it is the habit of the French mind to hold the existing government responsible for everything—from a crash in stocks to a rise in microbes.

In my next letter I hope to be able to give you a more detailed account of what is occurring in the medical world of Paris.

I am, very truly yours, etc.
EDWARD WARREN BEY, M.D., LL.D.

THE INTERNATIONAL MEDICAL CONGRESS.

To the Editor of Gaillard's Medical Journal.

Is it not time that the adherents of the National Code were asserting more boldly the correctness of their position and the justice of their cause? Dr. N. S. Davis, of the *Journal of the American Medical Journal Association*, discusses the affairs of the International Medical Congress in admirable temper, and with a rare magnanimity suppresses certain provocations to answer what in more than one instance was tantamount to personal abuse? For this he is certainly to be commended. Much fine writing seems to us to be wasted upon irrelevant issues—for instance upon what is called the "politico-medical" aspects of the case. There has been, it will be noticed, a constant reference on the part of some journals to what is called "the miserable code question." The idea sought to be conveyed is that of persecution for opinion's sake; whereas, the whole question resolves itself into one of methods. It began years ago, in our own State, when by trick and device the honest voice of the profession was stifled. In fact, when the "new code" craze assumed mammoth proportions, as an outcome of the ambitions of a few, who in the pursuit of their designs took the public press into their confidence, with the avowed purpose of bringing their opponents to both ridicule and grief, the profession, the so-called "rank and file," with their republican instincts naturally rebelled. The same battle was fought over again at the last meeting of American Medical Association. An oligarchy—perhaps only a triumvirate or less—sought to dictate nominations and thus ignore authority. In this instance, the men nominated may not have been objectionable, but the methods were certainly reprehensible. We know that their chances of success might have been better had they trusted to merit rather than to chicanery. But be this as it may, the success of the International Congress cannot be jeopardized by a few resignations. We may venture a whisper that the incandescence of those aggrieved may possibly be after all limited to only a domestic sphere, and that a delegate or two from abroad might be enticed to Washington in most deplorable ignorance of their ever having shone at all. We know that some journals will continue their animosities unto the very end. We also know that they will nurse their wrath and refuse to be comforted short of anything less than the humiliation of the National Association. To them it would be useless to speak, as their personality is too pronounced, and their Ephraim-like unchangeability too incorrigible. But we cannot shut our eyes to the fact that some misguided men have resigned their positions with undue haste, and these no doubt will in time return to their responsibilities if handled kindly and discreetly. So why keep up discord by clippings from a few malcontent journals and bolster up a bad cause by individual opinions of partizan character, while the unrummaged waste-basket might tell a far different tale? Still, we cannot help thinking that the thunder is only artificial.

New York, August, 1885. JOHN SHRADY, M.D.

To the Editor of Gaillard's Medical Journal.

DEAR SIR:—Although not wishing to trespass upon space which might be more profitably devoted by you to scientific material, I desire, nevertheless, to present for your consideration, in connection with the matter of the Ninth International Medical Congress, several principles which, thus far in the discussion of that unfortunate subject, seem to have escaped general attention, and which, if rightly understood and applied, would, I believe, set at rest much existing controversy. They are the principles upon which the International Congress as an institution was first conceived, and upon which, up to the present time, it has maintained a most successful career.

I. The International Congress is, essentially, an independent, self-perpetuating body. It is independent because its objects are *purely scientific*, and its organization possible only upon that basis. It is self-perpetuating because capable of appointing its own officers and of electing its own places of meeting. Its hitherto uninterruptedly successful career places the fact of its perpetuity beyond a doubt.

II. The Congress is, as its name implies, distinctly *International*. As an institution, therefore, it cannot by any possibility be considered the property of an individual, country, or party. Should such proprietorship be admitted at all, it could only be in the case of those who originated the enterprise and who have conducted it through its eight successful meetings. Since this is so it would seem not only wise and courteous, but, in fact, absolutely necessary, that local issues be placed as far as possible out of sight.

III. The profession of any given country in which a regular meeting may be convened have certain privileges (as of entertainment, general arrangement, etc.) committed to them, as it were, *in trust.* The entertaining body has, of course, its own share in the governance of the Congress as a whole, just as any other country represented, but it cannot possibly be conceded to have full controlling power. While accepting and exercising in full the privileges accorded to us as the organizers and entertainers of the Ninth Congress, we are still compelled to recognize our *trusteeship*, and we are under obligations, when we have finished with the institution, to leave it in the same sound condition in which it was received.

IV. It is, clearly, the *whole body* of the International Congress which should dictate its policy. The expressed wish of the Congress must be accepted, therefore, as the controlling line of action. When, at Copenhagen, it was proposed that the next Congress be held in Washington, before the question was put for decision to the Eighth International Congress then assembled at its final General Meeting, it was distinctly understood by those in charge that political issues in general, and the so-called "code issue" in particular, *were not to be admitted.* It was as plainly understood that the representation was to be of "*the medical profession of America.*" Upon the strength of these propositions the vote was carried unanimously.

Thus, in the present condition of affairs, we appear before the world not only divided against ourselves, but, what is far worse, as having set aside the distinct compact made with the International Congress itself, having acted in direct defiance of the principles by which it has heretofore been controlled, and having placed ourselves in clear opposition to its expressed wishes.

Regarded from the International and, therefore, from the true and broad standpoint, questions relating to local politics, local organizations, or local sentiments have in this matter no place. They are, most absolutely, out of order.

When the above principles are thoroughly understood by the profession of this country at large, and when it is also understood that it is only upon them, that is, upon the principles of its own adoption, that the International Congress will allow its policy to be conducted, we may hope that the present dilemma may be removed and further disaster averted. I trust that this most desirable issue may await us in the very near future.

"OLD CODE."

HOW TO RELIEVE ASTHMA.

To the Editor of Gaillard's Medical Journal:

To relieve those desperate paroxysms of asthma that threaten life every moment until relieved, I am accustomed to administer hypodermically the following:

℞ Mur. Pilocarpine.
Apomorphiæ $\bar{a}\bar{a}$ - - - - - - gr 1/8.

The patient will quickly sweat profusely, breathe easier, and obtain sleep within ten minutes.

To establish the work thus begun, proper constitutional treatment should be promptly instituted and perseveringly carried out in every case, for weeks at least.

For many cases the following is a favorite combination with us as a constitutional remedy:

℞	Iodide sodium	ʒi
	Fl. Ext. Grindelia Robusta	
	Tinct. Aloes.	
	Syr. Ipecac āā	ʒii
	Fowler's Solution	ʒss
	Fl. Ext. Belladonna	gtt. iv
	Syr. Lactucarium (Aubergiers)	q. s. ft. ℥ii

M. ft. sol.
S. Teaspoonful every three hours for one day, then three times a day just after meals, for from three to six weeks.

Of course, complications should be duly looked after, and treated *secundum artem.*

Q. C. Smith, M.D.

Austin, Texas, June, 1885.

REVIEWS.

Urinary and Renal Derangements and Calculous Disorders. Hints on Diagnosis and Treatment. By Lionel S. Beale, M.D., Fellow of the Royal Society, and of the Royal College of Physicians; an Examiner in Medicine of the Examining Board, in England, appointed by the Royal College of Physicians and Surgeons; Professor of the Principles and Practice of Medicine, and formerly Professor of Pathological Anatomy and of Physiology, and of General and Morbid Anatomy in King's College, London; Physician to King's College Hospital. Philadelphia: P. Blakiston, Son & Co. 1885. pp. vii.—356. Cloth. Price $1.75.

This book, the publishers announce, is brought out by special arrangement with Professor Beale, simultaneously with the London edition. Any work by its illustrious author on such a subject could scarcely fail to be one of note, and the reader in search of information on the topics treated will find in it, arranged in very compact form and expressed in a clear and attractive manner, a vast amount of matter of the greatest practical interest and value.

One of the earliest lessons taught in these instructive pages is the importance of water and of dilution and diluents. Some persons no doubt get into the habit of taking more water than is necessary for their system, or for many reasons desirable; but he feels confident that more take too little in proportion to the solid food they consume—in fact, eat too well and do not take fluid enough to ensure the proper assimilation of much of the solid matter, and effect the free solution and removal of the excrementitious substances formed during the physiological action of the tissues and organs. The consequence is, that as time goes on, the deposition of various substances takes place, and contraction and condensation of the tissues proceed faster than they should do, old age being reached years before the natural period of its advent. Many morbid conditions, he says, are relieved by the introduction of plenty of fluid at proper intervals, and the public have discovered the benefit of considerable, if not excessive, water drinking for a period of one or two months out of the twelve, so that the annual expedition to springs in every part of the continent has become more than fashionable. The value of many of the mineral "waters," he thinks, is mainly due to the chief and universal constituent of all. He then expresses the opinion that in many forms of illness, which, if they persist for any time, are certain to damage the whole body, and may be painful to endure during the entire period of their existence, all that is really required to restore the healthy condition is to wash out the tissues and organs, so that various noxious substances which have been accumulating, it may be for some years, may be dissolved by the water made to traverse the minute interstices of the textures, and thus removed in solution. To effect this purpose, however, considerable time is often required, and a course of one or two months, during which from two to six or more pints of water are taken daily, may be required to produce much effect.

In this connection Dr. Beale says: "Not only is free dilution advantageous in many ways, but in this way food is wonderfully economized. Some of those who while eating sparingly nevertheless gain rapidly in weight, take considerable quantities with or after taking food. In endeavoring to reduce weight, this important point must not be lost sight of, and the imbibition of large quantities of water must not be permitted. One reason why milk is so fattening is that its constituents are dissolved and suspended in a large proportion of water, for, as is well known, the insoluble fatty matter is very minutely divided, and by a special arrangement evenly spread through the whole bulk of the milk." Sir Henry Thompson, it may be mentioned, has expressed the opinion that when water is mixed with any concrete matter, as in chocolate, thick cocoa, or even with milk, its capacity for dissolving is in great part lost. "So plenty is nutriment in solid food," he says, "that the very last place where we should seek that quality is the drink which accompanies the ordinary meal."

Having discussed the practical relations of acid and alkaline urine, the author takes up the consideration of the variation in quantity and in the relative proportion of the solids of the urine. He first refers to urea as the most important of the solids, and in treating of uræmia, which he speaks of as the term applied to that condition of the system which soon results from the retention of the excrementitious urinary substances in the blood, he quotes the results of the researches of Hammond, who has shown that the urine, as a whole, is more poisonous than a simple solution of urea, and has proved most conclusively that Frerich's notion, that the urea became decomposed into carbonate of ammonia, is erroneous; an opinion in which Johnson, Richardson, and other authorities concur. He states that in many cases of severe uræmia there is no urea to be detected in the blood, and that while various hypotheses have from time to time been advanced to explain the fact, none of them are entirely satisfactory. At present, he says very truly, we are but very imperfectly acquainted with the normal changes occurring in the blood, or with the consequences immediately resulting to the tissues, especially the nervous systems, from the retention of certain excrementitious matters, independently of urea; and we know very little of the remote or immediate effects resulting from excrementitious substances not being found at all. The question is a more difficult one than it appears at first sight, and requires more searching chemical and microscopical investigation than it has yet received. Possibly, he thinks, "uræmia" may depend not upon the presence of one single constituent of the urine only, as urea, in the blood, but rather on the accumulation of a number of products resulting from the disintegration of tissue which ought to be separated by the kidneys.

As regards the manner of dealing with the so-called condition of uræmia when once present, however, Dr. Beale expresses himself in hearty approval of the present generally recognized methods of procedure. "But whatever difference of opinion there may be as to the exact nature of the uræmic state and the mode as well as the order of causation of the several pathological phenomena which accompany it, or of which it is a consequence, there can be none whatever as to the proper treatment of the condition. It is here that the principle of rapid elimination must be promptly acted upon and actively carried out. Free purgation must be brought about, and aided by free diaphoresis, if this can be excited. Diuresis cannot be regarded as advantageous in these cases, for, the kidneys being in a state of inflammation and the capillary vessels congested, the organs must not be stimulated to increased action, but rather assisted to rest for a time; their work being thrown upon other organs, especially the bowels and the skin, until the kidneys are restored to their normal state, when free diuresis often takes place, and many substances which have been accumulating for some time are excreted, and the patient soon becomes convalescent." No mention is made of the use of morphia in advanced uræmia either in this place or in the section on uræmia in connection with acute inflammation of the kidneys.

It would be of interest to follow our author step by step through his entire treatise, almost every page of which is replete with practical instruction, but time forbids. It will be only possible in our remaining space to call attention to two or three other points referred to in this valuable little work. In speaking of the deficiency or absence of chloride of sodium in the urine in pneumonia he gives a number of conclusions deduced from chemical observations and analyses of the urine, blood, sputum and inflammatory products, among which are the following: That soon after resolution of the inflammation the chloride is again present in the urine, and often in considerable quantity; that at the period of resolution the serum of the blood is found to contain a greater amount of chloride than in health; that the presence of the chloride in the urine may be taken as evidence of the existence of a greater quantity of the salt in the blood than is required for the wants of the system generally; that the sputum in pneumonia contains a greater quantity of fixed chloride than healthy pulmonary mucus, if there be not much less than a normal amount in the blood, although there be complete absence of the salt from the urine; that the absence of the chloride from the urine during the stage of hepatization seems to depend upon a determination of this salt to the inflamed lung. He directs particular attention to the fact of these changes with regard to the excretion of the chloride of sodium in the urine because he believes it to have a very important bearing upon the probable mode of action of many of our remedies in various pathological conditions.

Under the heading, "Deposits of Oxalate of Lime," a very important lesson to the practitioner is given in the following passage: Although there are many abnormal conditions of the system in which both oxalates and urates are very common, both deposits may be present, and, indeed, very commonly are present, in the urine of healthy persons. What is termed the "oxalic diathesis" seems to have derived its name from the fact that oxalate of lime is present in the urine, but this is not the most important part of the case, and the practitioner cannot make a greater mistake than to direct his attention to the urinary deposit alone, or to consider this as a special indication for treatment. In the same case, at one period, we find uric acid and urates; after a time, these mixed with oxalates, and, lastly, oxalates alone; and there will probably be found in connection with the symptoms clinical facts of far greater consequence, especially as regards the question of treatment, than the presence of oxalate of lime in the patient's urine.

On a section on public morals, following one on derangement of the sexual function, Dr. Beale very properly deplores the imparting of dangerous knowledge to the young. It is often said, he remarks, that they cannot be expected to avoid the pitfalls made for them at every step, unless they are made aware of their existence; that, in fact, as regards the relation of the sexes, a good deal more should be taught to the young than has been considered by the best men and women to be necessary or desirable. Not only is the plea absurd on the face of it, in his opinion, but the force it is suffered to have is destroyed by the fact that those who, so far from having been instructed, have been kept in ignorance, their minds being entirely occupied with other matters, for the most part escape; whilst the precocious, who learn and peer into all the details of questions which ought to be considered only by adults, are those who fall.

In regard to syphilitic renal disease he says that of all forms of albuminuria that have come under his observation this has proved the most tractable, or, more properly, curable; for, unquestionably, many cases of very serious albuminuria, with extensive anasarca, have completely recovered, notwithstanding the illness had lasted for two years or longer. In these cases the amount of albumen may reach two-thirds, or more, of the bulk of the urine tested, and, if we regarded symptoms only, cases of albuminuria which depend upon syphilitic disease would seem to be among the most serious forms of renal disease. The dropsy, he continues, is often excessive, heart and lung complications are frequent, the stomach is often much disturbed, and sometimes anæmia seems likely to destroy life. And yet these cases are seldom fatal. Indeed, in many we may promise early improvement, and, if not actual cure, certainly mitigation of the most serious symptoms within a short time. As regards pathological changes due to syphilis, he says that while on the one hand they are of a very persistent character, and last in some instances for many years, ceasing, perhaps, for a time, and then re-appearing in the same or other tissues, syphilitic deposits are undoubtedly more amenable to remedies than ordinary chronic inflammatory thickenings, contractions, or deposits, or amyloid or cancerous changes. He considers it remarkable that the organs of the nervous system and many of the glands, especially the liver, are more seriously and permanently affected by deposits of a syphilitic character than the kidneys; but he has had under observation more cases of syphilitic disease of the kidney in which permanent benefit has resulted from treatment than he has met with among cases of syphilis affecting other organs of the body. Although tumors and gummata of syphilitic nature are found in the kidney, he thinks that most of the cases of albuminuria of syphilitic origin that come under notice are due to changes closely allied to those which occur in chronic inflammation with enlarged kidney, which has been considered to be interstitial or intertubular in its origin; though the particles of bioplasm are of peculiar, and, as is said, specific character. In regard to this latter he says: "These particles of syphilitic bioplasm are small and granular, but I know of no means by which they can with certainty be distinguished from the particles of bioplasm which grow and multiply interstitially in ordinary inflammation. It is probable that these particles of living matter, like those in ordinary inflammation, after growing and multiplying for a time, die, and undergo disintegration and liquefaction. The state of blood which results from the long-continued introduction of small doses of mercury and iodide of potassium no doubt favors the death and disintegration of these particles and promotes the absorption of the resulting products."

Like many other writers, Dr. Beale is convinced of the extreme fatality of diabetes in young subjects, stating that he cannot call to mind a single recovery from the disease occurring in a person under thirty where it had been once thoroughly established. The experience of Dr. A. Flint, Jr., however, as set forth in his papers before the American Medical Association and the New York State Medical Association, in 1884, has been much more favorable in this class of cases. In speaking of the medicinal treatment of diabetes, Dr.

Beale does not make any reference to the arsenite of bromine, a remedy which of late has obtained considerable repute in this affection.

It is to be regretted that there is no index, though the fulness of the table of contents in part compensates for the absence of one.

THE OLEATES.—AN INVESTIGATION INTO THEIR NATURE AND ACTION. By JOHN V. SHOEMAKER, A.M., M.D. Philadelphia: F. A. DAVIS, Att'y, 1885.

Although considerable has been written about the oleates in the treatment of diseases of the skin, it is not a little remarkable that few, if any, reports of their use come from those who are known to be particularly occupied with dermatology. Dr. Shoemaker has repeatedly discussed the subject in the journals, and the public is already acquainted with his views; in the present little book he has summarized his statements with regard to these substances, and has also given certain chemical data, which appear to have been supplied by Mr. Wolff, a chemist of Philadelphia.

The oleates have now been before the profession for some years, but of the twenty preparations here mentioned very few have proved to be of any practical value, and these have been known and used many years; these are notably the oleates of mercury, lead, and zinc, and these occupy a very subordinate place in cutaneous therapeutics, hardly being alluded to in text-books or journal articles relating to diseases of the skin.

Many points of criticism could be made both in the chemical and the therapeutical portions of this book, but it scarcely warrants more than brief mention. We may note, however, that while the author states most positively that true oleates cannot be made by the direct action of oleic acid on bases, but must be produced by a double decomposition of sodium oleate and a solution of a salt of the base, Dr. Squibb, in the last issue of the *Ephemeris*, quite as positively states that this is a delusion, and that the reverse is true. Dr. Squibb further remarks that "this statement started as an ingenious advertisement for oleates made by double decomposition as against those made by direct union of the elements, and was all well enough as an advertisement, because about as accurate and true as advertisements in general." The thoughtful medical public will not be long in deciding between Dr. Shoemaker and Dr. Squibb. Indeed, it is a remarkable coincidence that the text of this book should be followed by four pages of advertisements of Dr. Shoemaker's oleates by an enterprising drug firm.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF TENNESSEE, AT ITS FIFTY-SECOND ANNUAL MEETING, NASHVILLE, 1885.

Nearly seventy members were present at the meeting, and the proceedings were of much interest. The able address of the President, Dr. D. D. Saunders, of Memphis, was on the subject, "Every Man Owes a Debt to his Profession," and among the papers presented were the following: Malarial-Remittent Fever, by R. F. Evans, M.D., of Shelbyville; The Therapeutic Effect of Ligation of Great Arteries, by Daniel J. Wright, M.D., of Clarksville; Epidemic Cholera more easily Prevented than Cured, by J. W. Penn, M.D., of Humboldt; Cereberal Embolism, by A. J. Swancy, M.D., Castalian Springs; Puerperal Convulsions, by T. K. Powell, M.D., Daneyville; Disease of the Mastoid Region, by Wm. S. Linsley, M.D., Professor of Diseases of the Eye and Ear, University of Nashville and Vanderbilt University; Puerperal Septicæmia, by J. B. Murfree, M.D., Murfreesboro; Some Cases of Kidney Disease, by R. F. Keyes, M.D., Eagleville; and Extra-Uterine Pregnancy of Twenty-nine years' Duration, by J. W. Sharler, M.D., Spring Hill. An appreciative memoir of the late Dr. James G. Barksdale was also read by Dr. Thomas Lipscomb, of Shelbyville. The volume contains, in addition, the proposed law to regulate medical practice in Tennessee, as prepared by the Legislative Committee, the amended bill, recommended by the Sanitary Committee, as finally agreed upon, and the report of the Committee on Medical Organization.

PROCEEDINGS OF THE TWELFTH ANNUAL MEETING OF THE ASSOCIATION OF THE ALUMNI OF THE ALBANY MEDICAL COLLEGE, MARCH 4, 1885. Together with a Report of the Commencement Exercises and Alumni Dinner; also the Alumni Lectures of 1885.

The address of the President, Dr. Horace T. Hanks, of New York, was on the subject of Peri-Uterine Inflammations. The alumni lectures, on the Germ Theory of Disease, were delivered by Professor Wm. H. Thomson, of New York, of the class of 1859. It is announced that the lectures at the next meeting, March, 1886, will by given by Dr. S. Oakley Vanderpool, and that his subject will be, Hygiene; Its Relations to the Profession and the General Public.

ANNUAL ADDRESS BY THE PRESIDENT OF THE MEDICAL SOCIETY OF WEST VIRGINIA, GEORGE W. BAIRD, M.D., OF WHEELING.

In this interesting address Dr. Baird pays the following well-deserved tribute to Dr. James E. Reeves: There was one occurrence in connection with the Board (the State Board of Health) during the year 1884 which was a matter of deep regret to not only almost the entire profession in the State but also to every citizen who takes an interest in sanitary science, and feels a pride in the position West Virginia has attained as one of its cultivators among her sister States. The resignation of the secretaryship by Dr. James E. Reeves is referred to. Dr. Reeves was the father of the Board. Without intending any disparaging remarks about the other members of this and former boards, it can truthfully be said that it was mainly owing to his persevering efforts that the act creating the Board, and the amended act giving it increased powers, were passed by the Legislature. The successful working of these acts was in a great measure due to his management. The position accorded to West Virginia by medical men in other States as one of the foremost in creating a State Board of Health, is a tribute to his fostering care. His efforts to make the law a success were not confined to his own State, but in all places and at all times, at home and abroad, his aim was to make it a model to be copied by other States. To accomplish this required a great loss of time and sacrifice of business on his part, and also compelled him to endure the abuse and slander which seem to be the inevitable penalties inflicted on every one who tries to work reforms of any kind. The charges inspired by malice which have been made against him would have disheartened almost any other man, but he seldom turned aside to notice them, and he had the satisfaction of learning, but a few days before ill-health compelled him to resign his position, that the most malignant of his detractors had been completely overthrown by the highest tribunal in our State. While the profession and people regret his resignation, it is a satisfaction to learn that his labors have been recognized in States other than his own, and that through him West Virginia has the honor, at this time, of holding the chief office of the most prominent health organization in America.

In the conclusion of the address he thus alludes to the anti-vaccination action of the Legislature : At the last session of the Legislature an item in the general appropriation bill, setting aside one hundred and fifty dollars for pay of vaccine agents, being under consideration in the House, a member (H. C. McWhorter), taking advantage of the haste attending the last days of the session, stated to his fellow-members that "he had studied the subject of vaccination, and that it was a sin and a humbug ; that it inoculates the system with four or five diseases to prevent one, and that many of these diseases are worse than small-pox, and that more deaths had resulted from vaccination than from small-pox." He asserted "that a death had occurred in his own family from it, and that the physician who had performed it had resolved never to vaccinate another person after this death occurred." He was successful in so prejudicing the minds of his fellow-members that they struck out the appropriation, and our people have thus been deprived for the next two years of any assistance from the State in providing for themselves and families protection from the most loathsome disease known to afflict the human race. * * * *

The Medical Society of Kanawha County, which was in part represented by him, referred these statements to a special committee, and a copy of the committee's report, kindly furnished by Dr. Cotton, President of the Society, is presented to you. In this report the whole subject is fairly and impartially treated, and sufficient evidence is produced to convince any but the most prejudiced mind that our Legislature acted unwisely in striking out the appropriation. It also shows that the death in his own family was not even remotely caused by vaccination, but was the result of a premature birth, and that the statement that a reputable physician took an oath never to practice vaccination after the patient's death is untrue. The only reason for giving the matter any attention is to give expression to the humiliation medical men in West Virginia feel when they reflect that the Legislature of a State which has in former years legislated so wisely in reference to health subjects, should so far forget its honorable record as to act as it did in this matter, at the bidding of a man who not only showed ignorance of the subject, but also a degree of malice characteristic of a fanatic.

BOOKS AND PAMPHLETS RECEIVED.

"Notes from the Physiological Laboratory of the University of Pennsylvania." Edited by N. A. Randolph, M.D., and Samuel G. Dixon. Philadelphia: J. B. Lippincott Co., 1885.

"Surgical Notes from the Case-Book of a General Practitioner." By Wm. C. Wile, M.D. Reprinted from the *New England Medical Monthly*, July, 1885.

"Influence of Sea-Voyaging upon the Genito-Uterine Functions." By J. A. Irwin, M.A., M.D.

"Foreign Bodies Left in the Abdomen after Laparotomy." By H. P. C. Wilson, A.M., M.D. Reprinted from vol. ix, Gynæcological Transactions, 1884.

"The Physiognomy of the Vulva as a Sequence of Anal Disease, the Cause or Sustaining Cause of Disease of the Generative Organs of the Female." By Isaac E. Taylor, M.D. Reprinted from Vol. ix. Gynæcological Transactions. 1884.

"The People's Health Journal of Chicago." A Popular Monthly Magazine Devoted to Health, Hygiene, and Preventive Medicine. Vol. I. No. 1. $1 a year, 10 cents a number.

"Endometritis Fungosa: Its Pathology, Diagnosis, and Treatment." By James B. Hunter, M.D. Reprinted from *The Medical Record*, April 25, 1885.

"Some Interesting Reflex Neuroses, with Treatment and Contents." By John J. Caldwell, M.D. Reprinted from the *Virginia Medical Monthly*, May, 1885.

"A Description of the Improved Sonometer: Opium Eating." By Martin F. Coomes, M.D.

"Annual Announcement of Lectures and Catalogue of the Medical Department of the University of the city of New York." Session of 1885–6.

"Catalogue of the Albany Medical College, Medical Department of Union University," 54th Session, 1884–5, and Announcement for Session of 1885–6.

"Annual Announcement of the Medical College of Georgia" (Medical Department, University of Georgia), Augusta, Ga. Session of 1885–6.

MISCELLANEOUS.

THE HOSPITALS OF LONDON.—The following interesting account of some of the great London hospitals, and the distinguished men connected with them, is from a paper read before the Butler County Medical Society by Dr. A. N. Ellis, and published in the *Cincinnati Lancet and Clinic:*

The principal general hospitals of London are St. Bartholomew's, Westminster, Guy's, St. George's, London, Charing Cross, Royal Free, Middlesex, King's College, St. Mary's, Great Northern, West London, University College, and the new St. Thomas's. It is hard to classify the London hospitals, because they include so many various branches overlapping each other. Almost all have different departments for different diseases, such as aural, dental, and ophthalmic wards, and departments for surgical, medical, skin, and throat diseases. Fever hospitals receive cases of diphtheria and measles, as well as those classified as fevers, and these, like the small-pox hospitals, are subject to seasons of great depression, owing to the great demands which are periodically made upon their resources. One great step forward made within the last few years has been the founding of two institutions for incurables, both of which are noble institutions. They provide homes for those unfortunate beings whose sufferings allow no cure.

St. Bartholomew's is the *great-grandmother* of all the hospitals in the world, having been founded in 1102, on the site of an old priory. It contains 676 beds, and annually receives 7,000 patients into its wards, and relieves 120,000 out-patients. Its income is £40,000. Many eminent men have been connected with St. Bartholomew's. Here the famous Harvey taught for more than thirty years; here Sir William Gull was long a leading physician; here Abernethy, Radcliffe, Brodie, Mead, and Lawrence did well their part. Dr. Radcliffe, physician to Queen Anne, bequeathed £500 as a perpetual annuity for improving the hospital diet, and £100 for the purchase of linen. There are museums of anatomy and botany, a well-furnished library, and a chemical laboratory. Around the hospital itself are a mass of buildings devoted to the medical profession, among them a training-school for nurses. The great hall contains a few fine portraits of distinguished men who have been connected with the hospital. The paintings on the grand staircase, "The Good Samaritan," "The Pool of Bethesda," and "A Sick Man Borne by Monks," are the work of Hogarth, who executed them gratuitously, and in return was made governor for life.

Guy's Hospital was endowed by Thomas Guy, a bookseller, in 1721. He had long been interested in St. Thomas's, but being fortunate in business, and also in adding to his fortune by a lucky drawing in a lottery, determined to have a hospital of his own. It has long been considered as one of the best-managed institutions in London, and the medical school connected with it enjoys a fine reputation. Its chapel contains the tomb of the celebrated surgeon, Sir Astley Cooper. It has 500 beds, and treats annually 80,000 patients. I am not informed as to the amount of its income. Judging from the work done it must be immense. It possesses a distinct house for lunatics, and is provided with recreation grounds and gardens. Here the system of "*Sisters*" upon the nursing staff has long been in vogue, with a fair measure of success—the ladies undertaking these duties being drawn from the higher classes. They are attached to some particular order of the Church of England. The museum connected with Guy's contains a most valuable collection, being surpassed only in extent and value by that in the Royal College of Surgeons (old John Hunter's) in Lincoln Inn Fields.

St. Thomas's Hospital originated in an alms-house established in 1212. In 1862 the Southeastern Railway bought the buildings and grounds for £296,000 for the use of their London Bridge terminus extending to Charing Cross. This enabled the St. Thomas people to rebuild on ground gained from the river on the right bank of the Thames between Lambeth Palace and Westminster Bridge. It consists of seven detached blocks of red-brick buildings, four stories high, 125 feet apart, and raised on lofty foundations. It occupies a large area of the new Thames embankment, and from the other side of the river presents a very imposing appearance. It has forty-four wards, 500 beds, and annually relieves 50,000 patients. Its income is £22,000.

Middlesex was founded in 1789, at the time of the French Revolution, and threw open its doors to receive the immigrants from that troubled land. It is one of the best ventilated hospitals I ever saw. No odor, such as is very often found in those abodes of suffering, can be noticed. The nursing is very good —staff of lady-probationers always in attendance. Middlesex is the only general hospital in London admitting incurables, giving care, nursing, and skill to make the suffering bearable, and also providing accommodation to convalescent patients.

The first unendowed hospital in London was Westminster, in a crowded district near Westminster Abbey. It was founded in 1719, and became at once so crowded that fourteen years later St. George's was established as a much needed branch. This latter has long outgrown its parent, and when dissatisfaction as to the management of Westminster led to a final disruption of the two, the public gained the advantage of two distinct institutions. St. George's has the best site of any such establishment in London, being situated opposite Green Park and Hyde Park. In connection with it is a convalescent hospital at Windham, which is well endowed and always crowded. University Hospital gives surgical appliances free to poor patients, sends dinners to out-patients, supplies milk to many hundreds of poor, ill-nourished children, besides making money grants to the indigent whom it has relieved. University Hospital is fitted out with every modern improvement in the way of ventilation, drainage, telephones, medicated baths, and elevators. The men's wards are on the ground floor, the women's on the first floor, and the children's above. Special rooms are devoted to special diseases. By a system of air-tubes all infection is said to be removed. Fever cases are not admitted, and contagious cases carefully excluded. As a medical training school University Hospital ranks as one of the best in the world. Among the many distinguished men on the staff, we may mention Sir Henry Thompson, Professor Erichsen, Berkley Hill, William Streatfield, Sir William Jenner, and Grailey Hewitt. In this connection it may not be amiss to mention that very often the man with the greatest reputation for learning and skill is very often a very indifferent teacher. Many men of whom I had been hearing all my life impressed me so poorly that I did not care to see them or hear them again. This remark does not apply to Sir James Paget, at St. Bartholomew's, who is one of the best teachers and finest off-hand talkers among the medical men in London.

The London Hospital, situated in one of the lowest and most densely crowded districts of the city, surrounded by docks, manufactories, railroads, the incessant traffic of the largest city in the world, is a nucleus of suffering and concentration of misery, such as is scarcely conceivable; 7,000 patients are annually received into its wards, and 50,000 out-patients receive relief. Its income is only £12,000 a year, and the expenses attending it amount to three times that sum. It is growing and will continue to grow; always crowded, always in debt, it deserves help and sympathy from every friend of humanity. Among the prominent names connected with its staff, are Mr. Cowper, Hughlings Jackson, and Jonathan Hutchinson. Lennox Brown once told me that

Hughlings Jackson was one of the closest students and most competent observers he had ever seen. Connected with the London Hospital is a training-school for nurses, under the direct supervision of the matron. The trustees of the institution have much to contend with, in the expectations of the public on one side and the demands of the numberless patients upon the other. We may safely say that it will not be long ere there are branches or off-shoots from the London. From its very location, sufferers flock to it in such great numbers that additional room must soon be had. This is particularly the case in times of epidemics, and it is in just such parts of a great city that epidemics commit their greatest havoc. Before the outbreak of the cholera in 1864 a new wing, intended for the general patients, was at once filled with the stricken poor, and besides that more than 12,000 were treated as out-patients.

In reply to a question often asked me, as to where a medical student can best spend his time in London, I will say that a position as "*dresser*" at one of the general hospitals will give one a great deal of information he can get in no other way. Had I my time to go over again, I would seek such a position. I know one young American student who succeeded in getting a position as *dresser* immediately upon his arrival, and made fine use of his opportunities. Of course, when one who has been in the "practice" several years goes over to study up a specialty, it is different. Then he should apply at Moorsfield for the eye, Golden Square for the throat and lungs, the British Hospital for skin-disease, the Women's hospital in Soho Square for gynæcology, or epilepsy and paralysis at Queen's Square, Bloomsbury, where electricity is the principal element brought to bear upon the terrible sufferers.

If you ever go to London you must not fail to visit the Cancer Hospital, where 5,000 out-patients are treated yearly. This institution provides sixty to seventy beds, where new methods are tried, and human ingenuity and skill achieve wonders in the way of alleviation and help in cases of this dread disease. You take your way along the busy streets where throng the great crowds of people, where the birds sing, and the sun shines, and the strains of music mingle with the roar of the city. You soon leave all these behind you, and realize when you enter those long whitewashed walls that you bid good by to day, and pass into the regions of night. You'll never want to go again—you'll never forget what you have seen. That place has no kinship to anything else known to man. The stream widens and deepens as it runs to the grave. Ah, the sights of suffering that you cannot forget—the sad cry of some unutterable sorrow—a weary wail whose echoes ring along the margins of life and death—along the gray, barren shores where disease walks hand in hand with death.

The Dreadnaught Hospital is exclusively devoted to seaman, and that too of all nationalities. It is an offshoot from the Greenwich Hospital, which had its origin in an old vessel, the Dreadnaught. It is now a large institution, and not unfrequently as many as thirty different nationalities are represented in its wards. Turks, Germans, French, Danes, Russians, Portuguese, Italians, Americans, Mexicans, *et id omne!* The sailors who are treated here are kept in the institution until they are quite recovered from their sickness, for it is against the rules of the hospital to dismiss them when only convalescent. Perhaps it may not be amiss to speak of some of the eminent men you meet, and right here permit me to say they are as polite and elegant men as you may wish to meet. They are generally easy to approach, and willing to give you all the information you may desire, and that too without pay. In this they present a marked contrast to the way things are done in Vienna. Instruction at the latter place is divided all up into private courses, *the aim being to get the maximum of money for the minimum of time and teaching!*

The Royal Ophthalmic Hospital, at Moorsfield, is the greatest eye institution in the world—more than 21,000 cases annually. Unfortunately no instruction of any kind is given, either by private courses or clinical lectures. You stand around and see what you can. If you are not afraid to ask questions of the *big-guns* on the staff, you may manage to pick up a good deal of information. The number of out-door patients in attendance is about 400 daily. When they first apply at the hospital they are given a paper upon which is written the name, diagnosis, treatment, etc. If it is a case for ophthalmascopic examination, a blue card is given them, and they are shown into a dark room, where their case is attended to when the press is over. If it is a case of refraction, they are given a red card and directed to be seated in an outer room and wait their turn. If at the end of the examination glasses are demanded, an order is given on Beck & Co., the noted opticians. If the case is one to be taken into the House, a green card is given, and the patient is shown up-stairs to Mr. Gunn, the house surgeon. In the management of the clinics, operations, etc., the details are all carried on with the greatest system. Not unfrequently operations begin up-stairs in the operating room at 9 A. M., and last until half past 2 P. M. At 2 P. M. the day's work is done, so far as the outside patients are concerned; the doors are closed, the doctors and students go away, and then the house doctors do their work in the wards. The following distinguished men are on the staff at Moorsfield: James Dixon, George Critchett, William Bowman, Jonathan Hutchinson, Messrs. Wordsworth, Stratfield, Hülke, Lawson, Cooper, Tay, Adams, and Tweedy. Critchett has an annual income, £12,000. Stratfield is one of the finest operators on the eye in London. Critchett is also connected with Middlesex, and Hülke is a professor at the Royal College of Surgeons. George Lawson also attends at St. Mary's. You will meet Spencer Wells, the man who has operated on ovarian tumors more than a thousand times, at the Samaritan, Squires at the British Hospital for Skin Diseases, Playfair at King's College, Mackenzie at the Golden Square, Lennox Brown at the Central London Throat and Ear, Allingham at St. Luke's, Nettleship at St. Thomas's, Brudinell Carter, Robert Barnes, Timothy Holmes, and Prescott Hewitt at St. Georges, Sir Henry Thompson and Sir William Jenner at University Hospital, and Braxton Hicks, Messrs. Purvis, Bader, Higgins, John Hilton and Sir William Jenner at Guys. Sir William Gull is said to have a practice worth £18,000 a year. He is consulting physician to the Queen.

I wish it were within the province of this pen to tell you how elegant and homelike many of the appointments of the London hospitals are; magnificent buildings, lofty ceilings, broad halls and staircases, carpeted floors, flowers, singing birds, quiet, order, care, skilled nurses, pictures, books, music, and the best medical attendance. The first thing I noticed was the great profusion of illuminated texts of Scripture everywhere. There seems to be no end to these beautiful decorations. After all, when we come to lie down on beds of sickness, what is sweeter and more comforting than the faith of our childhood? "Fancy borrows much from memory, and so looks back to the past. Stories first heard standing at the mother's knee are never forgotten—a little spring that never quite dries up in our journey through scorching years!"

The limits of this paper will prevent me mentioning many things I might speak of in connection with hospital work. The English people are a grand good people. They do not go crazy over politics. They live sober, quiet lives. They have none of that feverish anxiety that possesses this restless

Yankee nation. They live a long time, and when they come to die they generally leave something to a church or hospital, and it is in this way that such immense sums are in the hands of the great charities of the British Islands. One thing I remarked with great satisfaction: the feelings of the patients of the hospitals are held sacred by the doctors and attendants. This was made much more manifest when I compared their condition to that of the patients in Vienna. Human life is cheap in Vienna. Nobody seems to care for the peasantry of Germany. In their hearts are no memories of the past, in their brains no dreams of the future. The tender grace of life is a myth, and the relentless wall of poverty shuts out from their view many of the sweet things of this beautiful world. I do not deny that Germany is the scientific workshop of the world; I will not assert that she has not given to medicine and surgery some of our greatest names. I look upon Billroth, Dumriker, Rokitansky, Hebra, Kölliker, Sigmund, Hyrtle, Arlt, Jæger, and the Graefæs as men who have borne the torch of investigation so far in front of us that the hill-tops that intervened have often shut off the rays of light. *They have had opportunities in experimenting and investigation upon the cheap human life that has lain all around them, and that too by methods which would never be tolerated in England and America.* Then again, there is a lack of tender and chivalrous devotion toward divine womanhood. Continental Europe might produce another Joan of Arc, but never another Florence Nightingale.

DR. CHABRET'S NOVEL OPERATION.—Of all modern surgical operations, that recently performed by Dr. Chabret, in Paris, is perhaps the most remarkable. He removed a diseased eye from a young girl and replaced it with the eye of a rabbit. The transplanted eye has accepted the situation, and promises to be an efficient substitute for the lost one. Of course, it may differ in focal length from the girl's original eye, but that is a defect that can be remedied by spectacles.

This operation is apparently destined to put an end to blindness among men. Hitherto the loss of an eye has been irreparable, but if our missing eyes can be made good by the eyes of the lower animals, no one need be without a pair of good, substantial eyes. The supply of eyes which can be made use of for this purpose is inexhaustible, and as the cost of production is practically nothing, the cost of supplying one's self with new eyes will be very small.

Not only can blindness be thus rendered unnecessary, but persons who have lost their original eyes can more than supply their loss. In fact, we can all greatly improve our powers of vision by providing ourselves with choice and desirable eyes. The efficiency of the police force would obviously be greatly increased were every policeman to be supplied with a pair of cat's eyes. He would then be enabled to see a cashier or other criminal on the darkest night without the aid of a lantern, while his eyes would be at least as valuable in the daytime as are ordinary police eyes. The eyes of hawks and other far-seeing birds would be of immense advantage to sailors and other persons whose occupation makes unusually good eye-sight necessary, and it is probable that within the next few years no sailor will be able to receive an officer's certificate unless he can prove that he is supplied with the standard marine eye—whether that may be the eye of a hawk, an eagle, or a crow.

For purposes of personal adornment the new plan of supplying girls with beautiful eyes is sure to be popular. What man could resist the pleading gaze of a girl wearing a pair of setter's eyes or the eyes of a deer? What could be more attractive than a girl with the eyes of a pink rabbit? The eyes of a Skye terrier would be just the thing for girls who wear their hair banged, and the eyes of an owl would be very appropriate for girls who are fond of moonlight excursions. Of course, the feminine fashion in eyes will change from time to time, and setters' eyes, which may be fashionable next year, may be decided to be vulgar a year later, when peacocks' eyes come into fashion. Indeed, it will probably be necessary for a fashionable lady to change her eyes with her dress, and we shall hear disparaging remarks made of this or that girl to the effect that she is wearing the same old eyes that she wore at Mrs. Smith's party last winter.—*N. Y. Times.*

HOW TO MAKE GRUEL.—"To make flour gruel properly, you use one quart of milk, three tablespoonsful of flour, and a teaspoonful of salt. Pour all the milk except a cupful into a double boiler. Mix the flour with the milk you reserved, and stir it into the boiling milk and let it cook thirty minutes, putting in the salt ten minutes before it is done. The longer milk cooks the more laxative it is. If you wish to make the gruel especially nutritious cook a half cupful of raisins cut in two in the milk during the entire time. This drink is very stimulating, and is often given in place of wine to patients. In Indian-meal gruel the meal must always be well cooked, an hour or two being usually required. But it is better to use the very fine meal now in use rather than that milled by the old process, and always, when needed quickly, put it into boiling water at once. To make this gruel, take one quart of boiling water, two tablespoonfuls of medium meal, one tablespoonful of flour, one teaspoonful of salt; mix the meal, etc., with a half cup of cold water, and pour into boiler. Stir while it is cooking and cook not less than thirty minutes. Always keep the saucepan covered."—*Miss Parloa's Lectures before the School for Nurses, at Charity Hospital, Blackwell's Island, N. Y.*

DRIVING A NAIL INTO HIS HEAD.—UTICA, June 19.—John Meninger, a saloon keeper, sixty years old, informed his wife this morning that he was going to die: that he had done something to himself that no one would know until he was dead. Later he complained of severe pains in his head, and Dr. James G. Hunt was called, who found the head of a nail imbedded in the top of the man's head. By pulling hard with forceps the doctor drew out a ten-penny nail 2½ inches long. Meninger said he made up his mind last night he had lived long enough, and about midnight he got up and drove the nail into his head, hitting it eight blows with a hammer. He then went back to bed and slept till morning. He is alive to-night and may recover. The physicians account for his escaping death by the fact that the nail passed between the hemispheres of the brain without penetrating either.

DR. HAMMOND AS AN AUTHORITY ON THE ART OF DINING.—In a recent review of Dr. Hammond's novel, "Mr. Oldmixon," occurs the following: That perfect mastery of gastronomic science which Dr. Hammond possesses places him at the head of those who write romantic cook-books. Where else but in "Mr. Oldmixon" can be found a receipt for "*croutades* with frog livers." In the seventh chapter of the story, the best method of cooking canvas-back ducks is fully explained. It is only when the temperature of the range is at 153½ deg. Fahrenheit that the delicate operation of roasting a canvas-back duck can be perfected in 16½ minutes. But even then there must be communication between the man who eats the duck and the roaster of it, and this communication has to be carried on by means of an electrical bell. Perhaps the most touching incident in "Mr. Oldmixon" is where Dr. Hammond describes the action of a wretch—a Mr. Partridge by name—who is brute enough to eat currant-jelly with his roast canvas-back duck. Such an act of vandalism almost kills the host. It is something, too, to learn that the temperature in a bottle of wine can be equalized. If your thermometer shows the temperature of the fluid at the top to be 68 deg. and at the bottom 63 deg., by turning the decanter upside down you get a uniform temperature. Dr. Hammond does not favor champagne *frappé*, and his reasons for it are sound. Wine at such low temperatures chills digestion. Then, again, in a pasty condition champagne slush is hard to serve. The most experienced butler can only get it out of the bottle by means of jerks, and then sometimes it splashes out and spoils the ladies' dresses. Nothing can be more absolutely just than what Dr. Hammond writes about that most reprehensible thing they do in England—the serving of champagne with the roast. Champagne is the wine that is to be drank up to. How can a man that has swilled champagne in the early part of his dinner enjoy Château Lafite and Clos Vougeot afterward? It is simply impossible. His palate is ruined for that day when the first swallow of champagne goes down his throat.

DEATH OF A ROYAL MOTHER.—"Jennie," a beautiful royal Bengal tigress, recently died in labor at the Central Park menagerie; the fatal result, it is said, being due to rupture of the uterus. There were three unusually large cubs, two of which were delivered before the mother's death, while the third was found in the uterus at the autopsy. None of the cubs lived.

NOT TRUE ALONE OF THE BAPTISTS.—At the late Virginia Baptist (colored) Convention an enthusiastic member said: "Let every one here who takes a Baptist paper hold up his hand." Up went the hands, and just then the editor of the *Baptist Companion* cried out, "Now, let those who pay for their papers hold up their hands." This time fewer hands went up.—*Pittsburgh Presbyterian Banner.*

It is to be apprehended that if at any convention of physicians similar inquiries were put in regard to medical journals, the result would be very much the same.

A POWERFUL REMEDY.—A countryman with a jumping toothache entered a drug store and inquired for something to give him relief.

"We have various remedies for that trouble," the druggist replied. "We can give you anything you like, sir."

"Well," said the suffering countryman, "I guess you kin give me a small bottle of Boston faith cure. I hear it's knockin' the spots off everythin."

A STRONG RELIANCE.—A recent married man says that "population and drainage are the hope of Southwest Georgia.—*Augusta* (*Ga.*) *Chronicle.*

A SHOWER OF FALSE TEETH.—A vulcanizer in a Chicago dentist's office exploded the other day, with the result of precipitating a number of shattered sets of teeth upon the heads of passers in the street, and a gentleman who was struck by one of them facetiously remarked that "somebody must have been chewing dynamite up there." Fortunately no one was injured.

THE MORAL EFFECT.—There seems to be no valid reason for complaint on the part of those who have made haste to announce their antagonism to the Congress, unless the elimination from official position of those who have disqualified themselves from membership of the American Medical Association be so considered. How many of those who have united to oppose the Congress are willing to admit this as the reason of their action? Practically, however, their action sanctions and encourages those who have attempted to break down the barrier between the regular profession and those who ostensibly practice homœopathy or other exclusive systems of medicine, and it virtually rebukes those who have so earnestly and successfully labored for the honor of the medical profession by sustaining the National Code of Ethics. Have all those who decline connection with the Congress under its present organization reflected upon their action in these points of view? They cannot have given the matter due consideration. Nothing disrespectful is intended in saying that they have acted with undue haste. How often, under a temporary excitement based on misapprehensions, are conclusions formed and measures taken which are reconsidered and relinquished after a little sober reflection.—*From "Data for the History of the Ninth International Medical Congress," published in the Journal of the American Medical Association.*

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MEDICAL NEWS.

BRITISH MEDICAL ASSOCIATION.—The fifty-third annual meeting of this association was held at Cardiff, on July 28, 29, 30, and 31; Dr. W. T. Edwards, of Cardiff, presiding. The excursions arranged for it included trips to Tintern Abbey and Raglan Castle, Glastonbury Abbey and Wells Cathedral, Caerphilly Castle and Dowlais Iron Works, and Symond's Yat and the Speech House, Forest of Dean.

KENTUCKY STATE MEDICAL ASSOCIATION.—The thirtieth annual meeting of this association was held at Crab Orchard, June 24, 25, and 26. The annual address was delivered by the President, Dr. Pinckney Thompson, of Henderson; and among the papers read was one by Dr. T. D. Fink, of Louisville, on the treatment of phthisis with strychnia and mercuric bichloride, in which he reported several cases where these remedies were employed, in the dose of one thirty-second of a grain three times a day, with the most satisfactory results. The following officers were elected for the ensuing year: President, Dr. J. P. Thomas; Vice-Presidents, Drs. I. A. Shirley and R. C. McCord; Permanent Secretary, Dr. J. Steele Bailey; Assistant Secretary, Dr. Fayette Dunlap; Treasurer, Dr. Edward Alcorn; and Librarian, Dr. J. S. Taylor. Winchester was selected as the next place of meeting.

MICHIGAN STATE MEDICAL SOCIETY.—The twentieth annual meeting of this society was held at Port Huron June 10 and 11. The following officers were elected : Vice-Presidents, Drs. Patterson, Griswold, Carstens, and Alvord ; Treasurer, Dr. A. R. Stuart.

PROFESSOR TYNDALL'S GIFT TO AMERICA.—The receipts from Professor Tyndall's lectures in the States in the year 1872 now amount to a fund of $32,400. The learned professor desired that the money should be devoted to the sustentation of science fellowships ; but a difficulty arose in satisfying the conditions of the deed of gift, and meanwhile the money has accumulated. Acting, however, upon a suggestion from the trustees of the fund, Professor Tyndall has now directed that the money shall be equally divided between the universities of Columbia, Harvard, and Pennsylvania.—*Brit. Med. Journal.*

ILLINOIS STATE BOARD OF HEALTH.—The regular quarterly meeting of the Board was held in Chicago, July 2 and 3. The quarterly report, which was read, is interesting and valuable, and among the topics referred to in it are the following : Medical Education, quacks and impostors, "Vaccination after exposure ;" the Cholera ; sanitation of the State ; the Plymouth, Pa., epidemic ; yellow fever, and glanders in man.

AMERICAN OPTHALMOLOGICAL SOCIETY.—The 21st annual meeting of this society was held at the Pequot House, New London, July 15 and 16, 1885. The following officers were elected for the ensuing year : President, Dr. W. F. Norris, Philadelphia ; Vice-President, Dr. Hasket Derby, Boston ; Secretary and Treasurer, Dr. O. F. Wadsworth, Boston ; Corresponding Secretary, Dr. J. S. Prout, Brooklyn.

THE WEEKLY MEDICAL REVIEW.—Dr. George J. Engelmann has resigned the editorship of the department of obstetrics and gynæcology of this journal, and on his return from abroad the first of October will enter upon his new duties in the Polyclinic and the chair of obstetrics and diseases of women in the Post-Graduate School, St. Louis. His former collaborator, Dr. F. E. Ameiss, remains as editor.

THE PRIZE AWARDED TO DR. BROWN-SEQUARD.—It is the custom of the five Academies constituting the Institute of France to award a prize of 20,000 francs every two years. The prize is successively given to a scientist, a man of letters, a philosopher, an artist, and an archæologist. Every second year one of the five Academies selects a candidate, and, with the consent of the other bodies forming the Institute, awards him the Prize. This year it was the turn of the Academie des Sciences to choose the candidate. The eleven sections of this scientific body may each put forward a candidate. On the present occasion, as we announced on the 4th inst., Professor Brown-Sequard was chosen by the Section of Medicine and Surgery; and M. de Brazza, the African explorer, to whom France is indebted for much of the territory she possesses on the Congo, was the choice of the Section of Geography and Navigation. Five other sections also nominated a candidate. So that Physiology, Geography, Mathematics, Chemistry, Botany, Physics, and Astronomy were pitted against one another for the prize—a prize, be it remembered, that such men as M. Guizot and M. Thiers were proud to obtain. At the first ballot 20 votes were given to Dr. Brown-Sequard and 15 to M. de Brazza, and the remaining 20 went amongst the other five candidates. The second ballot secured 40 votes to Dr. Brown-Sequard, his opponent merely retaining his previous votes. The Academie des Sciences having therefore selected Dr. Brown-Sequard for the prize, the whole Institute of France had to accept or refuse what had been done by that scientific body. The Institute ratified the choice of the scientific academy by a majority of 67 votes, the numbers being 74 and 7. It must be a source of much gratification to Dr. Brown-Sequard to find that his efforts to extend our knowledge of physiology and pathology have been so ungrudgingly appreciated by the Academie des Sciences, as well as by the whole Institute of France.—*Lancet.*

A CHICAGO HOME FOR INCURABLES.—Chicago is to have a charity that will be a credit to the philanthropy of its founder. March 7 the will of Mrs. Clarissa C. Peck was admitted to probate. By the provisions of this will, the sum of $125,000 is appropriated to the purchase of ground and the erection and furnishing of a building to be known as a home for incurables, and the balance of an estate amounting to upward of $600,000 is given as an endowment for the same.—*Med. and Surg. Reporter.*

THE INTERNATIONAL MEDICAL CONGRESS AND THE COUNCIL OF THE NEW YORK STATE MEDICAL ASSOCIATION.—The following resolution has been adopted by the Council: *Resolved*, That the Council of the New York State Medical Association respectfully recommend to the Committee of Arrangements for the International Medical Congress the following modification of the rule by which the American membership of the Congress is to be constituted, to wit: That the American membership of the Congress be constituted of delegates who shall be entitled to participate in the business and scientific proceedings, and of members who shall be entitled to participate only in the scientific proceedings of the Congress; that the delegates may be appointed by the American Medical Association and by State and local organizations in affiliation therewith in the proportion of one delegate for every ten, or fraction of members of the organizations thus represented; that members of the regular medical profession of the United States may become members of the Congress by registering their names as such and by taking out tickets of admission.

MISSOURI STATE BOARD OF HEALTH.—Dr. George Homan, of St. Louis, was made Secretary at the organization of the Board, July, 2, 1885.

CHANGES IN THE CHICAGO COLLEGES.—Dr. N. Senn, of Milwaukee, has accepted the chair of Principles and Practice of Surgery, and Dr. C. Fenger the chair of Clinical Surgery, in the College of Physicians and Surgeons. In the Chicago Medical College, Medical Department of the Northwestern University, Dr. W. W. Jaggard has been appointed Professor of Obstetrics, and Dr. N. S. Davis, Jr., to fill the place vacated by the resignation of Professor Fenger.

THE HOSPITAL SUNDAY FUND OF LONDON for the present year amounted, July 11, to £31,200.

FAILURE OF INOCULATION FOR YELLOW FEVER.—The *Diario Comercial*, of Vera Cruz, says that three persons inoculated for yellow fever according to Dr. Carmona's plan have died there.

THE NEW YORK POLYCLINIC.—A pathological laboratory has been fitted up in connection with this school, which is to be under the direction of Dr. Frank S. Billings, editor of the *Journal of Comparative Medicine and Surgery*.

PROTECTING THE PUBLIC HEALTH.—Dr. Cyrus Edson, of the Board of Health of this city, has sent in a report of the work accomplished by his sanitary division during the three months ending June 30, from which it appears that 15,890 pounds of beef, 64,596 pounds of veal, 21,983 pounds of mutton, 5,999 pounds of pork, 14,170 pounds of poultry, 3,010 pounds of cheese, and 181,532 pounds of fish were seized as being unfit for human food. The sale of 195 packages of adulterated tea was prohibited; 1,622 specimens of milk were examined, and 194 quarts were found to be adulterated. During the quarter the inspections made by the force under Dr. Edson were as follows: At markets, 154; commission houses, 1,241; butchers' shops, 713; storehouses, 1,091; packing houses, 13; vessels, 126; stockyards, 146; railroad depots, 209; and fish stands, 2,882.

QUARANTINE AT NEW ORLEANS.—New Orleans, July 4.—The officers of the State Board of Health have just returned from an inspection of the new quarantine station and the process recently put in use for disinfecting ships. Dr. G. B. Thornton, President of the Memphis Board of Health; Dr. R. M. Swearengen, Health Officer of Texas; Dr. C. C. Fite, of Nashville; Dr. R. S. Murray, United States Marine Hospital Service, and quite a number of local medical and sanitary celebrities were of the party, and all expressed themselves pleased with the process. On the quarantine tug are furnaces in which sulphur is burned, and a powerful revolving fan forces the gas evolved through a pipe which is connected with the hold of the vessel. A very few minutes suffices to fill the hold of the largest vessel with the fumes of this powerful gas, which instantly destroys all animal or insect life, and does in an hour the work of days, according to the old process of burning sulphur in a tin pan sitting on the deck or keelson of the ship. The process is the same as was invented and applied by Drs. Clark and Perry, quarantine surgeons under Governor Kellogg, ten years ago, but abandoned upon the change of administration, prior to the epidemic of 1878. The Board of Health have also established a lower quarantine ground for infected vessels at the head of the Pass à l'Outre, a point long since abandoned by commerce, and having the advantage of deep water, landlocked and isolated.

DEATH OF DR. E. A. ARNOLD.—Dr. Edmund Aldous Arnold, a promising and popular young physician of this city, died very suddenly at his office on the 19th of June, and the profession sympathizes very deeply with his afflicted parents, Dr. and Mrs. E. S. F. Arnold, in their great sorrow.

DEATH OF DR. TERHUNE.—Dr. Garrit Terhune, the oldest resident of Passaic, N. J., died July 2, in the eighty-fourth year of his age. He was the first, and for many years the only, physician who held a permanent practice in Passaic, and he was engaged in professional work there for fifty-six years. Dr. Terhune was one of the founders of the Passaic County Medical Society, and its first President. He held the office of Censor for several years, and never missed an annual meeting. His death removes the last charter member of the society. The doctor was also an old and honored member of the State Medical Society of New Jersey, and was frequently a delegate to its conventions as a representative of Passaic County.

DR. HENRI MILNE EDWARDS.—Dr. Henri Milne Edwards, the well-known French naturalist, died July 29, in Paris. Dr. Edwards was born in Bruges on October 23, 1800, and received his medical degree when 23 years old, after completing his studies in Paris. He was made Professor of Natural History at the Lycée Henri IV., and in 1841 he was appointed to a similar position in the Museum of the Faculty of Sciences. Of this institution he became Dean. In 1862 Dr. Edwards succeeded Prof. Isadore Geoffroy Saint-Hilaire as Professor of Zoology in the Museum. Dr. Edwards became a member of the Academy of Sciences in 1838, and an associate of the Academy of Medicine in 1854. He was a member of the Legion of Honor, and became a commander in that body in 1861. In 1878 he received the Grand Cross of the Order of Christ from the King of Portugal.

DEATH OF SIR MOSES MONTEFIORE.—Sir Moses Montefiore, the well-known Hebrew philanthropist, who in October last celebrated the one-hundredth anniversary of his birthday, died at Ramsgate, England, July 28. On the 1st of August memorial services were held in his honor at the Montefiore Home for Chronic Invalids, which he largely endowed, and at several of the Jewish synagogues of this city.

THE CHOLERA IN EUROPE.—The ravages of cholera still continue in Spain, as many as 4,000 new cases and 1,600 deaths sometimes being reported in a single day. The ratio of deaths to the number of individuals attacked is said to be 4 in 9, as compared with 3 in 7 in Italy, and 2 in 7 during the epidemic of last year. The disease has also reappeared at Marseilles, the authorities of that city having done nothing whatever to improve its sanitary condition, notwithstanding the terrible visitation of 1884. They have now no appropriation available for expenditure for cholera purposes, and dare not ask for funds for fear of creating alarm by the implied acknowledgment of the existence of the disease in epidemic form. In the meanwhile the General Government at Paris has granted a credit of 600,000f. for cleansing Marseilles.

MEDICAL LIBRARY AND MUSEUM AT TOKIO.—A new building in Tokio, recently purchased by the Sei-i-Kwai (Society for the Advancement of Medical Science in Japan), for the purposes of a medical library and museum, was opened on March 18 by the President of the Society, Dr. K. Takaki.

STATE BOARD OF HEALTH OF PENNSYLVANIA.—The Governor of Pennsylvania has appointed the following to act as members of the State Board of Health: Col. William Ludlow, Drs. Benjamin Lee, Joseph F. Edwards, and Pemberton A. Dudley, of Philadelphia, E. W. Germer, of Erie, and J. W. McClellan, of Pittsburgh.

POISONING BY DRIED BEEF.—Last month, at Momence, Ill., over forty persons (one at least of whom died) were rendered seriously ill by eating dried beef purchased from Rice's Butchers' Supply Company, of Chicago, the symptoms resembling those of severe cholera morbus. Samples of the beef were submitted for examination to Prof. G. A. Mariner, of Chicago, who reported that the examination does not disclose the presence in the beef of trichinæ or worms or any kind of living animal organisms. "It proves, however," says the doctor, "that there are numerous micrococci and other kinds of bacteria, such as accompany and indicate decomposition and decay in meat and the presence therein of poisonous alkaloids called ptomaines. It is to these ptomaines that the poisonous effects are undoubtedly due, as they are intensely poisonous, even in the most minute quantities. If a physician, in making a dissection of a decomposing body, gets even a small particle of the flesh containing them in contact with a scratch or cut on his hand, death is almost certain to ensue. The alkaloids in this beef are identical with those contained in what is called a 'mellow' body in the dissecting-room. The present bad condition of the meat may be accounted for in two ways; it may have been poor meat to begin with and it may have been insufficiently cured, so that decomposition set in after the curing. I am inclined to think the latter supposition the more reasonable."

AMERICAN OTOLOGICAL SOCIETY.—The eighteenth annual meeting of this association was held at the Pequot House, New London, July 14, 1885, with the President, Dr. C. H. Burnett, of Philadelphia, in the chair. The following officers were elected for the ensuing year: President, Dr. J. S. Prout; Vice-President, Dr. S. S. Sexton; Secretary and Treasurer, Dr. J. J. B. Vermyne.

DR. SHOEMAKER EXONERATED.—The capias in an action brought against him by a Mr. Merritt, of Troy, N. Y., which was recently served on Dr. Shoemaker, of Philadelphia, while in Chicago, has been quashed by the courts.

TULANE UNIVERSITY.—Dr. T. G. Richardson, of New Orleans, has donated more than one thousand volumes to the library of Tulane University.

AMERICAN NEUROLOGICAL ASSOCIATION.—The following officers for 1886 were elected at the recent meeting of the association in this city: President, Dr. C. K. Mills, Philadelphia; Vice-President, Dr. V. P. Gibney, New York; Secretary and Treasurer, Dr. R. W. Amidon, New York.

VIRGINIA STATE BOARD OF MEDICAL EXAMINERS.—We have had intimations that there are some practitioners in Virginia rebelling against the State law that requires that they shall first secure certificates from the State Board of Medical Examiners before undertaking practice in Virginia. One or two court clerks, indeed, have even refused to recognize the law. We forewarn all such parties now that they are violating the law, and that after a due amount of tolerance has been exhausted they will be arrested and made to test the constitutionality of the Act of the General Assembly. The Medical Society of Virginia has been contending for a State Board of Medical Examiners since 1870, and now that the law has been secured, the Society will not silently permit violations. Fortunately, the present Board of Medical Examiners is composed of gentlemen who have the interests of the profession at large at heart, and have determination and influence enough to bring offenders to justice. Twenty-eight States and Territories now have State or Territorial Examining Boards, and it will not be long before all the other States will have like protections against impostors and incompetent pretenders.—*Virginia Medical Monthly*.

NEW YORK STATE MEDICAL ASSOCIATION—FIFTH DISTRICT BRANCH. —The first *annual* meeting of the Fifth District Branch will be held in Brooklyn, on Tuesday, October 13, 1885. There will be a morning and afternoon session.

All Fellows desiring to contribute to the meeting, either by reading papers, notes, or communications, or by exhibiting specimens, are respectfully invited to notify the Secretary, E. H. Squibb, M.D., 36 Doughty Street, Brooklyn, to that effect at their earliest convenience.

THE NEW ORLEANS FEVER COMMISSION.—The following well-known physicians, all in long practice in this city, constitute the commission appointed to investigate and determine the nature of all cases of fever reported as suspicious, to the State Board of Health: Dr. Charles Turpin, Dr. G. Devron, Dr. J. P. Davidson, Dr. F. Loeber, Dr. C. J. Bickham. These gentlemen will, upon the request of the President of the Board of Health, visit, examine, and report to the Board of Health their opinion regarding a case in doubt. The Board of Health accepts their opinion as final and will act accordingly. We think this plan the very best solution of the difficulty regarding doubtful cases of fever. With the matter committed to such wise and careful hands we feel sure of securing the utmost possible confidence of surrounding States as well as the endorsement of our own people.—*N. O. Med. and Surg. Journal.*

MARRIED.—In Greenville, Texas, June 29, 1885, Dr. Thomas J. Pugh, of Bryan, Texas, to Miss Fanny E. Reese, of Greenville, Texas.

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EDITORIALS.

THE CHOLERA IN SPAIN.—The fearful ravages of cholera still continue in Spain, and the ignorance and superstition of the people, combined with the filth and general lack of sanitary precautions in which they live, tend to render the pestilence something appalling. Like the ancients under similar circumstances, the degraded masses attribute the scourge to a visitation of Divine wrath, and, distrustful of physicians, as a rule refuse and resist all medical interference. In many places, indeed, the idea is said to be prevalent that the doctors actually poison their patients.

There is little doubt that the reports of the number of new cases and deaths given in the daily papers fall far short of the actual reality, as in many districts it is simply impossible to preserve an accurate record of the progress of the disease. In one town, for instance, all the physicians, all the grave-diggers, and all the municipal officers except one have perished, and the full horror of the situation can scarcely be imagined. As a recent account says, neither figures nor words can exhibit the terrible condition of the stricken provinces and the misery of the people. From 50,000 to 75,000 persons have already perished, and the death rate is still increasing. *Galignani's Messenger* reports that in a town in the Province of Loria 150 corpses had been lying exposed in the streets for three days, and that in the town of Ajicia seventy corpses remained unburied, nearly all the survivors having fled. At Montaguado, in Andalusia, a fourth part of the inhabitants were carried off in ten days; the town was without any physician, and the single surviving gendarme was occupied in interring the bodies. In Granada, also, the pestilence is represented as especially severe, and scores of the victims of the disease drop and die in the streets, where in many cases they remain for hours before they are gathered up at night, for a hurried burial in a common trench.

In the city of Madrid, it is true, it has been kept tolerably well under control by the active measures adopted by the authorities; but in the provinces no adequate precautions have been taken, and at present there is said to be great excitement in Seville over a proposal of the government to abolish the power of the local authorities during the prevalence of cholera, because of their sanitary inefficiency, and to assume itself the direction of the city's affairs.

After the warning afforded by the cholera epidemics in France and Italy last year, there is certainly no excuse for the present frightful condition of things in Spain, and it is melancholy to think that if the Government had expended only a small portion of the actual money-cost to the country of the present outbreak, all this terrible suffering and loss of life, to say nothing of the vast amount of treasure involved, might have been saved.

There is, however, a lesson for other nations as well as Spain in the devastations of the scourge, and it is to be hoped that it will not be lost upon our own authorities. The disease has already spread beyond the Spanish borders into France, and within a week there have been no fewer than 300 deaths from it in Marseilles, where there were less than 1,800 deaths during the entire season last year, and where little or nothing appears to have been done to guard against its reappearance.

PRECAUTIONS AGAINST YELLOW FEVER.—Governor Ireland, of Texas, has done well in issuing a proclamation in regard to yellow fever. In it he announces that it has come to the knowledge of the Executive that persons from Vera Cruz, and possibly from other places in Mexico, infected with yellow fever, are now entering the State by way of El Paso and Laredo and other points on the Rio Grande by railroad and private conveyance, in direct violation of the quarantine proclamation of March 20, 1885. Therefore he declares that after August 13 quarantine shall be enforced on the Rio Grande against infected places in Mexico. Quarantine stations will at once be established at Laredo and El Paso, and inspection be made of all incoming trains. Passengers on trains running out of Rio Grande will be required to show their passports from the officers at El Paso and Laredo, and show that they have not within twenty days been in Vera Cruz or any other place infected. The citizens are requested to aid the officers, and the Governor reminds the people of the penal statutes against violating the quarantine rules and laws.

On the 13th of August there arrived at our New York Quarantine the bark John Gibson, after a voyage of 28 days from Cienfuegos, during which the Captain was taken with yellow fever and died, August 1. There were, however, no other cases on board.

THE FAITH AND MIND CURES.—While some of the clergy in certain denominations have allowed their zeal to get the better of their common sense in regard to so-called miraculous cures of disease at the present day, others have discussed the matter with great fairness and a just appreciation of the fallacies which are apt to deceive those who do not stop to consider the evidence afforded in such cases from a scientific point of view.

At one of the monthly meetings of Baptist ministers in this city not long since the Rev. E. D. Simons, of Bloomfield, N. J., read an essay on the faith cure in which he stated that in his personal experience he had encountered many instances of people who imagined themselves ill, when under the mental excitement incident to the idea that they were to be healed by prayer, they recovered through the exercise of their will power. As an instance he mentioned the case of a young woman (it is remarkable how frequently the faith cures occur in this class of subjects), as related to him by her father. She was afflicted with "curvature of the spine, paralysis of the lower limbs, tumor in the stomach, Bright's disease, and insomnia," but upon half an hour's devotion to prayer she recovered and is now enjoying perfect health. Mr. Simons very properly concluded that mistakes in diagnosis were liable to give rise to supposed faith cures, and remarked that he knew of many cases where children who were suffering from some trifling complaint had been pronounced to be affected with a surely fatal disease and their recovery heralded as a miraculous faith cure.

At a meeting of Congregational ministers in Boston, Prof. Stacy Fowler gave the following account of the views of Mrs. Eddy, who is supposed to be the original founder of the mind cure, or "Christian science," as related to him by the lady herself:

The mortal mind is only a belief that man has generated in him self. With this mortal mind he thinks that he is sick, but he is in error. Matter, thinks Mrs. Eddy, cannot suffer; the mortal mind alone suffers. The body never suffers from cold or heat or disease. It is the mind that imagines this suffering, and which does suffer. Christian science, she says, is entirely different from the so-called faith cure. The healer begins by arguing the case silently, and then audibly telling the patient that the disease only exists in imagination and is not real. If it is a case of cancer, the healer tells the person that there is no cancer, that it is only inflammation of the flesh; then the mind of the patient is swiftly swerved off the subject and brought to bear on God. The principle is to bring the mind out of matter into spirit, out of thought into knowledge, and to bring God by a tremendous swoop of thought down to the mind of the patient to crush a delusion.

Professor Fowler then went on to say: The question is, Is this science? With all respect for the personal character of Mrs. Eddy, I must say that it is the most unscientific thing that I have ever had any knowledge of. Mrs. Eddy is visionary, not scientific. While there are elements of Christianity in her system, it is nonsensical to call it Christian Science. People examine into it and add little to it, on account of the heralded reports of fabulous cures. There are, in fact, many persons who enter into it whose trouble really exists in their minds. Do these scientists really heal? I have not seen a case that I should call healing. Dr. Gordon thinks that they do heal, and then turns around and scoffs the scientists' idea as heresy. If they do heal, the people would not stop at a question of theology, but would flock to them. If they heal they will carry the day, and they ought to. Let them heal one blind man and they will establish their claim. We must see evidence clear and palpable. I do not deny that they have some influence on the sick. Physicians of all schools have some effect, but they only aid nature. If a man's finger is cut the physician dresses it, but nature heals it. Then, too, the higher life of the mind has, we must confess, a great influence over the body. I see indications that this "science" is going to pieces. The system is nothing but a sham, and cannot stand the test of practical life.

The absurdity of the claims not infrequently made by the believers in the faith cure and similar deceptions is well illustrated in the case of a young girl in Syracuse, who, after having been under appropriate surgical treatment for a year for hip-joint disease, which by this time was practically cured, was told by the faith healers that it was wrong to use crutches and that she ought to leave everything to the Lord. Consequently, when she discarded her crutches and began to walk without assistance, it was at once noised abroad that the physicians had completely failed to relieve her, and that her recovery was due entirely to faith.

At a recent meeting of the Philadelphia Clinical Society, as reported in the *N. Y. Medical Record* of August 15, Dr. D. M. Barr related a case of so-called faith cure which had come under his personal observation. He had first seen the patient, a lady forty-nine years of age, in January, 1879. She had then been suffering at intervals for several months from severe uterine hemorrhages. Examination revealed a cauliflower excrescence involving the posterior and part of the anterior lip of the os uteri. This was removed by the écraseur; the wound healed kindly, and for two years and a half the patient enjoyed excellent health. At the end of this time she again had uterine hemorrhage, and examination showed the presence of specific granulations covering the entire endometrium. These were destroyed by Vienna paste, and the patient passed another year of apparent health. Hemorrhage recurring again, another examination was made, and the epitheliomatous growth was seen to involve the vagina and the body of the uterus. The patient was greatly alarmed, refused all nourishment, and seemed to be rapidly approaching dissolution. At this juncture she was persuaded to try the faith cure, and after being prayed over and anointed she declared herself cured. And so she was to external appearances; she felt well and strong, and was able to endure almost any exertion, and she looked so much better that Dr. Barr did not recognize her when he saw her three months later. She remained in this condition about a year, when she began again to fail. She was again examined and the cancer was found to have been increasing steadily; it now filled the pelvic cavity, and the enlarged uterus extended as high as the umbilicus. She died a short time after this.

In this connection it may perhaps be of interest to refer to the case of the Presbyterian minister of Washington who died at sea in the early part of the summer, while on his way to attend the convention of believers in the cure by faith, which has been meeting in London. He had been ill since last autumn, but on account of his firm belief in the faith cure doctrine had entirely refused to take any medicine or seek medical advice, and so fell a victim to his illusion, as his sickness is said to have been of malarial character, and therefore probably entirely amenable to medicinal treatment.

A NOVEL FORM OF INSANITY.—The investigation of public institutions is often attended with very good results, and a most extraordinary case certainly is that which has just been brought to light at the State Lunatic Asylum at Harrisburg, Pa. Thirty years ago a beautiful and accomplished young lady of Philadelphia was committed to this institution by her father, Dr. Brinckle, not because she was insane, but on account of her extravagance; and there she has remained until within a few days since. It seems that the family had suddenly become reduced in circumstances, and Miss Brinckle, always accustomed to every luxury, thoughtlessly ran into debt. In order to free herself from the annoyance of creditors, she sold a piano and other furniture which she had purchased, but not paid for, and to escape the disgrace of a prosecution on the charge of obtaining goods under false pretences, her father had her declared insane.

The committee of the Board of Public Charities have now made the following report on her case, in consequence of which she has at last been restored to liberty:

"The undersigned officers and members of the Committee on Lunacy of the Board of Public Charities, having each personally examined Miss Addie P. Brinckle, a patient in the State Lunatic Asylum at Harrisburg, Penn., find no evidence of existing insanity, and declare it as their opinion that she should be discharged from said hospital. They further find upon an investigation of the case that the alleged cause of her commitment to the hospital was 'that she is deficient in judgment, and disposed to extravagant expenditure of very limited means.' This, in the opinion of the undersigned, is no just cause for her detention in a State hospital, even if such a propensity still exists, which they have no reason to believe."

During the long years of her confinement in the asylum, Miss Brinckle made repeated efforts to secure her release, but they were all ineffectual.

In June last, attention was first called to this remarkable case by Mr. Philip C. Garrett, chairman of the Pennsylvania State Committee on Lunacy, in an address before the 12th national conference of Charities and Correction at Washington, in which he thus spoke of it:

"A beautiful and charming young lady, just out of her teens, used to wealth, is extravagant, and her father, reduced in circumstances, finds himself unable to restrain her habit of spending money, concludes she requires custodial care, places her in a hospital, heedless of her earnest protests. He dies and leaves her there. There she has been near 30 years, and is now nearly 60 years of age, and still begging to be released. But the custodian still thinks she needs 'custodial care,' and she remains to this day under restraint of her personal liberty."

Possibly the case may be of service to one class in the community, viz., fathers with extravagant daughters, as the threat of thirty years' imprisonment in a lunatic asylum undoubtedly ought to be conducive to the practice of the most rigid economy.

A NEW MEDICAL JOURNAL.—The first number of Daniel's *Texas Medical Journal* has been received, and the editor is to be congratulated on its excellent appearance and the scientific value of its contents. May he have abundant success in his new enterprise. The glowing star of Texas, with attendant loves and graces hovering near, blazes on the crimson cover; and, in connection with the color, it may perhaps be remarked that, with the green light of the *Courier-Record* on the starboard, and the red light of *Daniel's Journal* on the port, the profession of that great State ought to feel that they are pretty well provided for. Let them keep the lights burning.

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ORIGINAL ARTICLES.

ARTICLE I.—THE ORDINARY TREATMENT OF NASAL CATARRH.[*] By NATHAN JACOBSON, M.D., Syracuse, N. Y.

Morrell Mackenzie, the eminent English laryngologist, tells us that so-called "nasal catarrh" is, so to speak, an American institution. So much more frequently is it met with on this side of the Atlantic that he has seen fit to name it—American Catarrh. Like dyspepsia, it seems in his eyes, one of the marks of true American citizenship. Section, station, or occupation—none seem to interfere with its spread or existence. Young and old have alike a claim upon it, or it upon them.

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[*] Read at the first annual meeting of the Third District Branch of the New York State Medical Association, held at Syracuse, June 9, 1885.

Many centuries ago the belief was current that as the bowels, so the brain occasionally required purging. Nasal discharges were regarded as the evacuation of the nasal products that had collected in its ventricles. This free discharge they called "catarrh"; deriving the name from the Greek words *ΚΑΤΑ* and *ΡΕΩ*, signifying—I flow down.

In those days this was regarded as really a normal process, and the person instead of being treated for a disease, was indeed to be congratulated that his brain had run enough to cleanse itself; and very probably they wished each other good health each time they sneezed, just as the Germans do now.

This view prevailed until 1660, when Schneider, of Wittenberg, issued his great work on catarrh. He overthrew forever the old ideas. He taught the profession that the nostrils were invested with a mucous lining, which ever since has borne his name. His idea was that the blood overflowing with humors was carried to the nostrils, where, through the office of this membrane these humors were separated and discharged. These humors were the result of high living, and catarrh was consequently thought to be more prevalent among the rich residents of the city than the plain-faring inhabitants of the country. His therapeutics were necessarily of a general character. He insisted upon more correct habits, proper regulation of diet, moderation in all things, and tranquility of the mind.

What view the general practitioner of to-day holds in regard to "nasal catarrh," it might be difficult to determine. As a rule, affections of the nares receive but passing attention, and most physicians treat them as did the French surgeon acute coryza—with contempt.

When a person has what is called "acute nasal catarrh," it is generally believed that there exists simply an acute inflammation of the Schneiderian membrane. This may be true. But there may be mixed or associated with it, an inflammation of the pharyngeal tonsil, or a congestion of the reticulated tissue covering the lower turbinated bones, which, because of its anatomical structure and physiological behavior, Bigelow has seen fit to name the turbinated corpus cavernosum.

People suffering from acute nasal catarrh do not, as a rule, seek medical aid. But when they do they are usually allowed to sneeze it out. A dose of quinine or Dover's powder may be prescribed, or some cough mixture administered. Local treatment is rarely, if ever, suggested. And yet these acute inflammations may extend from the nares to the neighboring fossæ; may travel down the pharynx to the larynx and the bronchial tubes; may find their way into the Eustachian tubes, produce obstruction here, or, extending into the middle ear, create an otitis media, with perforation of the drum, and perhaps terminate in irremediable deafness. Affecting an infant, acute catarrh may establish nasal stenosis and serious interference with the respiration and nourishment of the child.

Again, an acute process may be the starting-point of chronic trouble in the mucous membrane, the turbinated bones or glandular structures of the naso-pharynx.

While most cases recover under internal treatment, occasionally a patient is not so fortunate, and there may be reason to regret that more careful treatment had not been instituted.

Diseases exhibiting a persistent nasal discharge are called, ordinarily, "chronic nasal catarrh"—conditions absolutely unlike are grouped together under this name. With imperfect and incorrect ideas of the existing pathological state, the treatment is naturally unscientific.

Patients are advised, perhaps, to use a nasal douche with salt water, and simply cleanse the nostrils. If the nares are occluded because of apparent congestion, cubeb cigarettes, irritating snuffs, or the like are recommended. If there be much hawking and expectorating, a nasal syringe may be introduced through the mouth, and a solution of nitrate of silver or some other astringent injected into the posterior nares, without considering what parts may or may not be reached by the application. Astringent or saline washes may be snuffed up into the nostrils, or various powders insufflated. As a result of these procedures, the patient may experience *temporary* relief—or, what is quite as likely, may find the condition aggravated. In either event, after a time he finds himself growing worse instead of better. Disheartened with the results, he either concludes that catarrh is incurable or seeks the aid of some specialist whose wonderful cures are daily told in glowing language in our newspapers, or falls to using some well-advertised patent snuff or other catarrh cure. For this state of affairs the profession is largely responsible. People will seek relief, and not obtaining it from the regular profession, they look elsewhere.

The importance of properly treating so-called nasal catarrh is not fully appreciated. The intent of this paper is to emphasize the fact that its ordinary treatment is not only unscientific and unsuccessful, but that serious results may follow this maltreatment, or lack of treatment.

The word "catarrh" is nowadays applied to inflammations of mucous membranes attended with increased secretion. While doctors imagined that nasal discharges were, so to speak, the sewage of the brain, and their physical evacuation a physiological procedure, it was not to be expected that any treatment would be established to thwart nature. Nor while the profession saw in their mind's eye the beautiful function of purifying the blood performed by the mucous lining of the nostrils, could it be supposed that any one would suggest measures to lock up in the vital fluid the poisonous humors they so much feared.

But since the rhinoscope has shed its light into the nostrils, and the profession has learned that nasal discharge means nasal disease, the poetic functions of the nose are gone, and more enlightened views of nasal physiology, pathology, and treatment are accepted by the profession.

It has become an established fact that many conditions, differing essentially from each other, exist in the nares. We know that there may be congestion of the mucous membrane; that we may have hypertrophy or atrophy of the mucous and sub-mucous tissues; that there may be hypertrophy of the turbinated tissue; disease of the bony structures; deflection or thickening of the nasal septum; glandular disease of the vault of the pharynx; or even that adenoid growths may exist; that follicular disease of the naso-pharynx is of common occurrence; that the neighboring cavities may become affected—the frontal ethmoidal and sphermoidal cells—the antrum of Highmore—and, in short, it is established beyond question that what is called "nasal catarrh," like charity, "covers a multitude of sins." It seems almost that the word catarrh can rarely be properly applied to nasal disease. How can we, for instance, have "*dry*" catarrh, when the word implies *excessive* secretion?

It is apparent that the physician who fails to appreciate the manifold conditions grouped under the title "nasal catarrh," cannot pursue an enlightened treatment. Simple cleaning of the nostrils, or the application of stimulating or astringent injections or powders, directed alike to healthy and diseased structures, will prove of little service in effecting a cure.

It is by no means certain that the persistent use of the nasal douche, with even as innocent a mixture as a saline solution, is absolutely harmless. Beverly Robinson has found it to be injurious to the ears, to increase the inflammatory action, and to produce hypertrophy of the turbinated bones, and a increased rather than a diminished formation of crusts. He argues that the douche at best removes incrustations, directly, only from the lower portions of the nostrils, and that its benefit is only temporary. The reckless use of medicated solutions of whatever character unquestionably aggravates more often than improves the trouble they seek to cure.

The healthy portions of the nostrils do not require, and surely are not improved by, such treatment, while their application to diseased structures is usually a constant source of irritation.

The free insufflation of powdered drugs, especially when of a stimulating or irritant character, must obviously aggravate the existing conditions.

Many physicians still adhere to the belief that nasal catarrh is frequently of constitutional origin, and therefore adopt systemic rather than local treatment. Particularly is this true of what is ordinarily called "ozæna."* Perhaps many are satisfied to depend, in making a diognosis, as did Trousseau, upon the odor of the expired air, having the patient close alternately nostril and mouth, that he might detect from which cavity the odor came.

Of course, now we know that ozæna is not a fixed disease; that the fœtid breath may be created by altered secretion, various forms of ulceration, diseased bone, or some affection of a neighboring cavity.

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* At the meeting of the German Surgical Society, held two months ago, Volkman contended that the ulcerated condition of the nostrils occasioning ozæna was at times a purely tuberculous affection. If this be true, we can easily comprehend that the inhalation of air laden with bacilli can directly convey tubercular disease to the lungs.

We know that these incrustations cannot be washed out by a simple stream of water; that the ulcerations will not heal by the mere insufflation of bismuth, carbonate of potassium, or a murcurial powder, or the injection of yellow wash, a five per cent. solution of nitrate of silver, or sulphate of copper, as Trousseau would have us believe. We have learned that while general treatment is efficacious and necessary in building up depraved constitutions, intelligent local treatment is necessary to cure these affections.

To successfully treat so-called "nasal catarrh," there must be, first, a proper examination of the nares, anteriorily and posteriorily; second, an appreciation of the existing pathological condition; and, third, treatment based upon scientific principles to relieve the diseased state in each individual case.

If "nasal catarrh" be an American affection, as Dr. Mackenzie would wish us to believe, we can point with pride to what Americans have accomplished in the way of its treatment. The past ten years have seen almost a complete revolution in the methods of treatment. To these the scope of this paper permits only this general reference.

But it may be asked, What harm comes to the patient if these conditions are allowed to continue, and no radical treatment be instituted?

The hypertrophied tissue occluding the nares will render proper nasal respiration impossible. The pharynx will become dry. The air, unprepared for pulmonary respiration, unmoistened, and laden with dust and impurities, is well calculated to produce various disturbances in the respiratory tract.

Atrophic disease leads to ulceration and affections of the cartilaginous and bony structures of the nostrils, while the resulting decomposing products impregnate conjointly the inspired air, impair the general health, and may produce, as Cohen has pointed out, septic poisoning.

Follicular disease of the naso-pharynx, adenoid growths upon the pharyngeal vault, hypertrophy of the inferior turbinated bones, produce more or less interference with respiration, impair the senses of taste and smell, alter the voice, produce impairment or loss of hearing, rendering singing perhaps impossible, frequently cause and often prevent the cure of catarrhal diseases of the eye, create a capricious appetite, lead to general mal-nutrition, increase the susceptibility to diphtheria, scarlatina, and other diseases manifesting themselves in the throat.

It is believed that "hay fever" is developed only in persons suffering from hypertrophied disease of the turbinated bones, or some form of naso-pharyngeal catarrh.

It is a popular belief that "nasal catarrh," untreated or uncured, may lead to consumption.

That a close relationship exists between the nares and the lower respiratory tract is apparent. The various forms of laryngeal catarrh cannot be cured while catarrhal diseases remain active in the nares. Hypertrophied disease of the turbinated bones and nasal polyps have each been known to cause asthmatic attacks. Irritable points in the nostrils may keep up a constant cough. Yet to determine whether consumption can really be produced after this manner, may require further investigation and careful observation.

Flint expresses the belief that the opinion held by some, that chronic pharyngitis has a tendency to produce or may eventuate in pulmonary tuberculosis, is erroneous. In fact, he thinks that it denotes rather a condition unfavorable to phthisis.

On the contrary, a host of specialists in laryngeal and pulmonary diseases hold to the ground which Beverly Robinson expresses as follows: "Hence" (speaking of naso-pharyngeal catarrh) "comes, I am now thoroughly convinced, the neutral stage, in certain instances, of what afterward develops into different forms of pulmonary phthisis. Of these the purely catarrhal is by all odds the most frequent. Nevertheless, I am satisfied that such patients occasionally develop miliary tubercles, which had previously remained latent or unsuspected."

To this last clause I wish to take exception and say, rather, that as we now believe miliary tuberculosis to be of bacillic origin, so-called nasal catarrh unquestionably prepares a proper soil for its easy cultivation.

Aside from the effects upon the general system already mentioned, various remote disturbances, like chorea, reflex epilepsy, gastric troubles, retarded development, mental depression, and so on, have been observed to result from "nasal catarrh."

That very serious consequences may follow the improper treatment of the various nasal affections called catarrh, must be clear. These affections prevail over extended sections of our country to an almost alarming extent. They have been neglected more often than properly treated. The serious consequences of this neglect should occasion more than passing alarm.

They demand from every physician who pretends to care for them an appreciation of the true condition and an enlightened and scientific treatment.

ARTICLE II.—MALARIA AND QUININE. By L. B. ANDERSON, M.D., Norfolk, Va.

The writer hails from a district where malaria is recognized as holding supreme sway over all the *casi malorum* which assail humanity, and among a large class of the profession and population everybody is supposed to suffer more or less from its baleful influence. "I have malaria," is the usual response of every one laboring under any physical disability. "You need quinine," is the prescription given by hosts of volunteer doctors you meet upon the streets to any one laboring under catarrh, influenza, rheumatism, neuralgia, or *malaise*. One feels the impress of malaria at all times and seasons, and realizes its presence as well in winter as in summer. To understand the diseases of this climate is to recognize that malaria enters as a most potential factor in the production of diseases of every variety, and quinine as the remedy which is indicated in every type and phase. An attack of rheumatism or neuralgia coming on during the fall is demonstrably the result of malarious influence, because it is then that the decomposition of organic matter, under the influence of heat and moisture, is supposed to be progressing with the greatest vigor, and hence the atmosphere is laden with mephitic gases or living microscopic germs. Should pneumonia seize upon an athletic acrobat as he emerges from the heated room of his gymnastic exploits, he too has malaria. Every newcomer must take quinine for his protection, every old one for his preservation.

Being confronted so often by professional and non-professional gentlemen with the views above disclosed, the writer has been impelled, by a sense of justice to himself in occupying a position of antagonism, while, at the same time, feeling high respect for those who endorse these views, to give the subject a brief but careful investigation.

Malaria was formerly defined "an exhalation from decomposing vegetable or animal matter, or both, under the combined agencies of heat and moisture." This exhalation was considered a gaseous entity, which was so refined and subtle as to elude the most scrutinizing chemical or microscopical tests. It was supposed to be generated whenever vegetable or animal matter was passing through the putrefactive process, but was most frequently met with in low and marshy lands. Though its presence could not be demonstrated by any appliances known to science, its effects were such as to indicate its presence as unmistakably as the virus of small-pox or measles is recognized by its effects. And so fully satisfied was Macculloch of its potency in the generation of disease, that he attributed all ordinary fevers, angina, asthma, œdema of the lungs, catarrh, peri-pneumonia, dysentery, &c., &c. "to miasma from decayed vegetable matter aided by moisture." The arguments which the advocates of this theory seem to consider the most potential are derived from the assumed fact, that such fevers as are generally attributed to malarial influence are generally found in low, marshy countries the world over during the heated season, and in the United States along the seacoast from New Jersey to Mississippi. If, therefore (they reason), certain diseases exist where circumstances are the most favorable to the decomposition of organic matter, we have as valid reason for attributing disease to the product of that decomposition as we have to assign to the emanations from the body of one laboring under variola itself. They go further, and affirm that heat, moisture, and vegetable matter are essentially necessary for the generation of malaria, it being evident that they do generate it, from the fact that when all excessive moisture is removed from a malarious section, malaria is no longer generated. Dr. Drake says: "It is a safe generalization, all other circumstances being equal, that autumnal fever prevails most where the amount of organic matter is greatest, and least where it is least." "In localities thus situated," he adds, "one may almost certainly count on malarial fever in some of its forms after a heated season—in others differently situated we may safely anticipate an exemption from that disease." In demonstration of this proposition Dr. La Roche mentions almost a hundred countries and districts, including "the salt marshes of Normandy, France, along the

Mediterranean, the shores of the Adriatic, of Greece and Sicily, of Sardinia, Spain, and the Crimea, the lagoons of Holland, the soil of Flanders, the Pontine marshes and the Campagna of Rome, the coasts of Africa and India, and a large part of the seacoasts of the United States, along the Mississippi, the Lakes and other bodies of water. These all, in certain seasons of the year, and under certain atmospheric conditions, are the seat of febrile affections; while other places, sometimes not distant, but of different geological formation—less swampy, of different soil, less rich in vegetable matter—are, though similarly circumstanced in other respects, free from the disease. All these facts serve to illustrate the almost constant connection existing as cause and effect, between the kind of locality to which I have referred and the disease in question."

Were the circumstances above described as being favorable to the generation of malaria true, it would not be a demonstration that other agencies which are involved in those circumstances, were not the cause of the fevers, instead of malaria; nor indeed do the facts justify the conclusion that malaria is produced under such circumstances at all, or that there is really such an entity as malaria. Nor can we find anywhere in medical literature that such a proposition is sustained by any positive or reliable evidence. For, all the evidence which has been adduced is purely conjectural and speculative. If malaria, so called, be the offspring of organic decomposition, whether the product be germs or noxious effluvia, and this decomposition can only occur under the combined influence of heat and moisture, then it should only be generated in localities where all the agents are in combination, and in active exercise, and should always be found under such circumstances. This being a legitimate deduction from the general proposition, the following corollary is self-evident. If diseases which are claimed to spring from malaria be found to exist in many localities where the assumed factors of its generation are absent, and if a change, in one condition, in a district noted for the prevalence of fevers, which in no way affects the supposed factors in the generation of malaria, should obliterate all evidence of its existence, then as a fever generator, whether as vapor or germs, it can have no demonstrable existence. Facts, not conjectures, surmises, or inferences, must determine this question, and to these we now appeal.

While, under ordinary circumstances, intermittent and allied fevers are more prevalent in districts favorable to the decomposition of organic matter, there are seasons and districts which are peculiarly unfavorable to such changes, in which such fevers prevail to an alarming extent. During my residence, and practice of medicine, in the counties of Caroline and Hanover, in this State, a portion of my field lay amid sluggish streams in spacious, marshy flats, intersected by large ponds of water, from which the evaporation was immense. Bordering on this section, intermittent, remittent, and continued fevers of various types prevailed to a greater or less degree every year, and hence this was esteemed a highly malarious section. In another portion of my field the lands were high and rolling, and far removed from all sluggish streams or stagnant ponds, with only two streams of water a mile distant, which swept rapidly over their rocky beds in their course to the sea. Here were to be found none of the essential factors of malaria, and yet there were sporadic cases every year. And several times during my residence and practice of more than thirty years in that section withering droughts prevailed in the summer and fall, vegetation was scarcely sufficient to sustain animal life, no water could be found within many feet of the surface, no heavy dews moistened the arid fields, no murky vapors obscured the rising sun. Not a factor was present favorable to the supposed generation of malaria, and yet, nowhere have I ever seen a community so universally prostrated with autumnal fevers.

Some of the most obstinate cases of intermittent fever I ever saw originated in the mountains of Virginia, and that too, under circumstances which absolutely precluded the idea of transported germs or mephitic gases from the low lands. For nearly two and a half years I have practiced medicine in this city, during which time I have had an encouraging amount of patronage, and never before have I seen, in the same period, so few cases of diseases usually attributed to malaria. Soon after I located here the first section of sewer pipes was connected with the discharge well, and the drainage of water through those pipes, from so small a section of this small city, amounted to 288,000 gallons in twenty-four hours. And now, while trying to complete the connections of section 2, the water discharge is so rapid that a powerful fire-engine is not sufficient to keep down the water in one of the wells, so as to permit of continuous work. Should the other two sections discharge as much as the first, and it is probable it will be greater, there will be discharged, of surface drainage, a diurnal supply of nearly a million of gallons, to say nothing of the waste water from cisterns and hydrants; indicating that the citizens of this city have been living in an invisible lake, as without the sewer arrangements most of this vast volume of water would be discharged by evaporation. This would account for the greater prevalence here of neuralgias, rheumatisms, catarrhs, kidney troubles, etc., than most other diseases, which probably would prevail to a still greater extent but for the free admixture of salt vapor, which is so plentifully supplied by the vast sheets of salt water by which Norfolk is so nearly surrounded. As previously stated, in this damp climate I have lived for more than two years, during which time I have had no chills or fevers, and have been almost exempt from my old enemies, rheumatism and laryngitis, with which I suffered so much in the rolling high lands of Hanover; and yet I have taken no quinine or other supposed antidote on prophylactic to malaria. While, therefore, those diseases which seem to be most prevalent in this climate can be readily produced by the excessive humidity, without the agency of other factors, and since there is no proof of the existence of any other disease-producing agent of a gaseous, vegetable or animal origin, it is apparent that the prevalence of malaria, so called, is entirely conjectural.

That fevers of bilious, intermittent, or as usually designated, of "malarious origin," prevail to a considerable degree in the surrounding country, I believe is universally admitted. This I have supposed to be owing to the heat and moisture acting directly on the system, and specially to the bad water. I was advocating this theory a few days ago with an intelligent gentleman, who is thoroughly acquainted with all the surrounding country, when he related the following fact: "I was at the house of a friend, who resided near a large marsh, and whose family for years had suffered very much with fevers. His family physician was also present. We were discussing the quality of the water from a well he had dug some three years ago near his house. Nearly all the water in the surrounding country, for family use, is procured from wells, generally from seven to ten feet deep, more or less, and the water is hard, soapy, brackish, and unpleasant. In this case, about forty feet from the surface a vein of pure, cold, delicious water was found. While conversing about it, the doctor remarked that that well had cost him seventy-five dollars per annum ever since it was dug. How so? I inquired: Why, before that, my medical bills in this family were never less than that amount, and since, I have never had a case." Here is a well-authenticated fact, disclosing the presence in a given locality of every supposed factor of malaria, and where the diseases attributed to that supposed agent had annually prevailed from time immemorial, and where, for three years, one of which was very wet, one very dry, and one medium, not a case of fever had occurred. And yet the only change in the local condition or surroundings had been a plentiful supply of pure water. The inference to be drawn from this is, that the unhealthiness of the place was not due to malaria, or that pure water is an antidote to malaria. Along the Atlantic coast and generally for miles back, the lands are poor and sandy and vegetation is sparse, and yet intermittent fevers are apparently indigenous to this section. The same may be said of the high lands between the James and York, in neither of which the essential factors of malaria are found.

Upon the sandy hills of the counties of Caroline and Hanover, Virginia, where vegetation is sparse, and there is virtually no decomposition, autumnal fevers, under certain long spells of heat and drought, prevail to a greater degree than in the fertile flats of the Rappahannock or Pamunkey, laden with luxuriant vegetation. The sufferings of the British army in the arid wastes of the Soudan to-day, the congestive bilious fevers which prostrated the veterans of Napoleon in the deserts of Egypt, on his march to and from Syria, the fevers which assail the traveler over the burning sands of Arabia and Africa, demonstrate that rich lands, luxuriant vegetation, and humidity are not the only, or even essential, factors in the generation of fevers. If they were, the rich lands of the Piedmont, with their luxuriant growth of vegetable matter, under favorable influences of heat and moisture, which often occur, would be peculiarly liable to intermittent fever; which by no means is the case. If, therefore, rich lands, luxuriant vegetation, moisture, and heat be essential to the generation of malaria, then malaria is not an essential factor in the generation of fevers. Again, on the borders of Lake Drummond, a few miles south of Norfolk, where there is an abundance of heat, moisture, and vegetation, fevers are never known. The same is related by La Roche of "certain extensive marshes in Sweden, Norway, Russia, and also the bayous of the Louisiana delta, where the inhabitants live on narrow strips of land, surrounded on all sides by swamps and marshes; yet these regions are more exempt from fevers than any other portion of the State. Again, we are told that many places are only affected with fevers when the hot winds from the land have blown in upon them for several days, and that the vessels which are near wharves, becoming affected, are restored to a good sanitary condition by moving out a cable's length from the shore; while in the fever districts of Hanover and Caroline all residences which are located near the supposed source of infection generally escape, while those on the surrounding high hills, several hundred feet above the flats, are peculiarly liable to fevers. This is explicable on the principle that such high points are greatly exposed to the drying winds and burning heat of the day, and are the special points for the condensation of the humid vapors at night. The difference between the temperature during the day and night, or early morning, is such as to require warm wrappings to prevent a chill. If, then, there be two places similarly situated, at one of which fevers are prevalent, and at the other they are unknown, and yet both are plentifully supplied with organic matter, heat and moisture, the essential factors of malaria, it is evident that maleria is not the cause of fever, or philosophy is false in assuming 'that like causes will always produce like effects under the same conditions and circumstances.'"

On account of the dissatisfaction with the long-accepted theory of the cause of autumnal fevers which we have been considering, various modifications and amendments thereto have been suggested. Spores from certain cryptogamic plants supposed to grow plentifully in ague districts, were once assigned and urged with great pertinacity as the cause of such fevers. While this theory of Dr. Mitchell was being analyzed, Dr. Garnet, of this State, promulgated another, which was only a slight modification of the former. More recently Dr. Salisbury, of Cleveland, has followed nearly in the same line and claims the active agent to be a vegetable organism called *palmella*. Within the last two years, however, in keeping with the germ craze of the hour, Drs. Klebs and Tommasi Crudeli claim to have proved that the active agent in the production of autumnal fevers is a low form of vegetable organism found in the mud, dew, and vapors of marshes around Rome, etc., which they term *bacillus malariæ*. That the suppositions upon which the malarial origin of fevers rest were not based on reliable facts or even reasonably satisfactory inferences, the stampede of its advocates to the germ theory of Klebs and Crudeli is a clear demonstration. The eagerness with which this new theory has been accepted is a fair indication of the processes by which the former was received, and the readiness with which the human mind accepts what is mysterious and new, without an investigation of the facts and principles on which it rests. As an example, I refer to the declaration of a respectable physician, with whom I was conversing a short time since on this subject, who based his convictions of the correctness of the germ theory on the fact "that a medical gentleman in South Carolina had carried some marsh mud in a glass into a section where intermittent fever was never known, and set it in the window of the bedroom of two young men who had never been in a fever district; and having breathed the air laden with the germs from that mud but one night, they were both seized with intermittent fever." Upon such a *fact* as this, that gentleman's mind has found repose, and upon deductions drawn therefrom he bases his practice. On what basis does it rest? Klebs and Crudeli made a watery extract from the marshy soil of a malarious region containing these germs, and by injecting it into rabbits, produced symptoms which they regarded as diagnostic of malarial fever. Dr. Sternberg, of the United States Army, at the request of the National Board of Health, has been pursuing the same line of investigation as the Italian physicians, with additional observations concerning both the specific characters of the so-called *bacillus malariæ*, and the range of temperature that rabbits may undergo when under no unnatural influence. "I am satisfied," says Dr. N. S. Davis, "from the published evidence of Dr. Sternberg, that the experiments of Klebs and Crudeli are wholly insufficient to justify the conclusions at which they have arrived. On the contrary, the disease produced in their rabbits differs in no essential symptoms or post mortem appearances from that produced in the same species of animals by the injection of healthy human saliva, or any other organic material capable of undergoing septic changes; and their *bacillus malariæ* differs in no recognizable specific character from bacilli found in almost any foul water, under the influence of the summer temperature. The real nature and origin of the specific cause of periodic fevers is, therefore, still a mystery."

No conclusion of a mathematically demonstrated proposition can be announced with more satisfaction than the advocates of the specific cause, whether malaria or bacilli, of intermittent fevers proclaim their malarial dogmas, and the *rationale* of the *modus operandi* of quinine, their infallible antidote. And when assured that their surmises and deductions are sustained by no reliable facts or arguments, they point to the acknowledged virus of many diseases, the existence of which has never been detected by any test known to science, as a demonstration of the validity of their conclusions on this subject.

The virus of all zymotic diseases produces its like as surely as a grain of wheat or corn produces its like. Whether in the frigid or torrid zone, small-pox, measles, scarlet fever or plague are produced by the same specific causes, and their effects are the same in each. A person exposed to the emanations from the body of one affected with either of these diseases will have identically the same manifestations of diseased action, whether in Canada or Cuba, in summer or winter. But in so-called malarial fevers, while the cause is affirmed to be the same wherever they spring, yet the manifestations are as various as the hues of the chameleon. The one, no matter how mild, will produce its like; the other, no matter how violent, will never impart its virus to another. There is, therefore, no similarity or analogy existing between the operation of the causes of zymotic diseases and periodical fevers.

The advocates of malaria are no less empirical in their use of quinine than they are conjectual in their etiology and pathology. From the standpoint of malaria, they assume that all diseases produced by it have a tendency to periodicity; and quinine being the most potential of all known antiperiodics, is *par excellence* the remedy for such diseases. From the standpoint of *bacillus malariæ* they affirm that so-called miasmatic diseases spring from living germs, and quinine, being assumed to be a most efficient germicide, must be the remedy for them. And in countries supposed to be favorable to the generation of malaria, whether mephitic vapors or bacilli, all diseases are supposed to be produced or modified by it, whether they be intermittent, remittent or continued fevers of every type, meningitis, rheumatism, catarrh, neuralgia, pneumonia, or dysentery; so that quinine must be given with an unsparing hand. By what scientific, philosophical, or rational process one can be led to treat rheumatism as he would pneumonia, or meningitis as he would dysentery, is beyond our powers of comprehension. And yet the assumption that malaria is the cause of all these diseases, and that quinine is the antidote for malaria, compels its use in all.

I hope I may be pardoned for saying that the present empirical use of quinine is worthy only of the darkest period of the dark ages. If there be debility, quinine is given to impart strength; if there be too much action, it is given to moderate and lessen it; if there be a chill, it is given to produce reaction; and if there be a high fever, it is used to suppress it; if there be anæmia, quinine is given to impart tone and vigor and increase constructive metamorphosis; and if there be inflammation, quinine is given "to arrest the transmigration of the white corpuscles" (God save the mark), without which inflammation cannot exist (?). This is no fancy sketch, but a true picture of a living reality, as the pages of medical journals will fully corroborate. Instead of being worthy of any age, it is a blighting shame and disgrace to our profession, and the only remedy will be in a resort to facts for the basis of theories, and physiology as the foundation of a rational therapeuties.

That quinine in small doses is a gentle tonic, in medium or physiological doses is a most valuable neurosthenic, and in large or toxical doses, is a powerful depressant, we think was demonstrated in an exhaustive article on that subject we published two years ago in the *Therapeutic Gazette.* We hold that all fevers arise from inflammation or impaired function, or both, and a discussion of the one and restoration of the other will remove the fever. We base this proposition on the fact that the highest expression of life and health is found in a perfect performance of all the vital functions. This being a self-evident proposition, as a corollary from it we affirm that all disease may be measured by the degree of departure from a healthy state of any one or more of the vital functions. And as no organ will fail to perform its functions unless some deleterious agent is acting upon its tissues, nerves, or vessels, it follows that a removal of that agent will restore the functions of that organ. If the agent acting upon one or more of the vital organs be of a highly irritating nature, such as vitiated matters which suspended secretions have retained in the circulation, then the expression of diseased action may be measured by the activity of the pulse and the exaltation of temperature. To give quinine in toxical doses to quiet the pulse and reduce the temperature, will be only to obtend the natural sensibilities so that the system will no longer feel or give expression to the morbid impression, but in no way lessen its power.

To reach a logical conclusion in regard to the modus operandi of any agent in disease, we have only to test its action in a given state of the system, in various doses, and mark well its effect. Take for instance a state of intermission of fever; give during that period half-grain doses of quinine for ten hours, at which period the chill should recur, and we have a slighter chill but a higher fever to follow. The inference to be drawn from this is, that the quinine has given increased tone and energy to the nervous centres, but not sufficient to prevent the prostration of nervous energy which produces congestion and chill, but has imparted sufficient tone to give increased reactive energy. In such doses it must be a mild stimulant and tonic. If in the same condition quinine be given in ten-grain doses so as to administer forty to sixty grains during the intermission, there will be roaring in the head, ringing in the ears, deafness, nervous agitation, prostration, and profuse perspiration. The chill will be prevented, the febrile reaction aborted, but the debility, and, often, disturbance of the digestive functions, will render the convalescence slow and unsatisfactory. What inference would be drawn from this but that the quinine had acted with great energy on the nervous system generally, and while equalizing its energy had prostrated its powers, and left the system in a state of torpor? Its effects then, in such doses, are as a powerful stimulant, rapidly passing into debility. Should, however, the quinine be given in five-grain doses so as to give during the intermission twenty grains, you will have a gentle perspiration, an increase of the secretions, and genial warmth, a return of natural appetite, an increase of strength, a steadiness of the nerves, and no disturbance of the natural sensations or sensibilities. From this we deduce the conclusion, that such were the sanative, physiological doses of quinine, and in such doses it was a neurosthenic. If, however, quinine be given in tonic and neurosthenic doses in a case of continued or of so-called typhoid fever, the logical inference drawn from its physiological action, as above indicated, or as is abundantly sustained by ample observation and experience, is that the fever would be greatly intensified.

As a neurosthenic, indicated in all cases when there is a periodical excitement of the nervous or vascular system, followed by a period of repose or quiescence, quinine, as a remedial agent, has no equal in our materia medica. As a so-called febrifuge, antipyretic, or arterial sedative, its modus operandi is neither philosophical, rational, or in accord with the principles of a sound and wise therapeutics. In such conditions of the system there must necessarily be local inflammation, congestion with impaired or suspended functions, or impurities of the circulating fluids to a greater or less degree. And so soon as these aberrations are removed health will be re-established. To secure these ends, remedies which will remove inflammation or congestion and restore the functions, are indicated, such as bleeding, revulsants, expectorants, diaphoretics, diuretics, anodynes, cathartics, &c. These, singly or in combination, so as to meet the indications, will eliminate morbific matters, liberate pent up secretions, resolve inflammation, restore the circulation in congested organs, equalize nervous and vascular motions, and restore the system to health. But should quinine be given to reduce the temperature and curb the circulation, it must be administered in such doses as will produce a species of concussion of the nervous centres, which to say the least of it, must only suspend the expressions of diseased action, while the disease itself yet remains. To illustrate: a few days since I was called to see a young married lady with a profuse hemorrhage in the second month of gestation. Finding her situation such as to require aid, I called in a valued medical friend. A tampon was fixed in the vagina, which nearly arrested the flow. She was greatly prostrated and anæmic, with a vapory, frequent pulse. The tampon was introduced at 8 o'clock A. M.. At 8 o'clock P. M. she had a slight rigor, followed by high fever, delirium, sick stomach, with a pulse 160 per minute, and temperature 105° to 106°. Not having had an alvine evacuation for four days, 10 grains blue mass were given at midnight and a dose of oil at 3 o'clock A. M., followed in a few hours by several large injections, with but very partial success. At 9 o'clock the tampon was removed, being extremely fœtid. The pulse was now from 130 to 140, the temperature 102°. Ten-grain doses of quinine, every four hours, with bromide of potash, aconite and morphia, were advised by my medical brother. I told him that I could see no indications for either of the remedies, as I had no doubt all the trouble arose from suspended secretions and retention of morbid matter in the *primæ viæ*, and so soon as the one was restored and the other removed, the pulse and temperature would decline. He urged the malarial complication and the necessity of quinine. Against all my convictions I proceeded to carry out the prescription. At 6 o'clock P. M. twenty grains quinine had been given, with a slight increase of temperature and frequency of pulse, ringing in the ears, deafness, and nervous agitation. I suggested acet. ammonia for the night, and directed an occasional enema to promote the delayed action of the blue mass and oil. At 6 o'clock the next morning she had had two moderate discharges, followed by a marked decline in the pulse and temperature.

At 10 o'clock she had a large yeasty discharge, which indicated liver torpor, but with which was borne away much vitiated and exceedingly offensive matter. The pulse now came down to 116, and the temperature to 101°. At 4 o'clock P.M. she discharged a full, bilious and burning passage, which afforded immediate relief—the pulse coming down in a very brief period to 80, and temperature to 98°. In the meantime the perspiration was gently restored and the kidneys acted freely. She was now put on Peruvian bark and elixir vitriol, under which she is rapidly improving. This case could have been brought more fully under the power of quinine and the temperature and pulse reduced thereby, but *qui bono?* The vitiosities in the blood, secreting organs, and intestines would have all been there, and, if after days they should have been removed, the system would have been very slow in reacting from the overpowering effect of the remedy—or, as I have sometimes observed, the retained secretions would have produced a chachectic condition running into adynamia, hectic fever, and death. Here I will illustrate further:

A gentleman about 35 years of age was seized with a violent inflammatory bilious dysentary, great tenesmus, sanio-mucous discharges, and a burning fever. Malaria was diagnosed at once, and the patient placed under the influence of morphia, bromides, and quinine. In a few days the bowels became incontrollable, cachexia came on, a typhoidal condition supervened, and the patient died with "*typho-malarial dysentery.*" Ten days thereafter, another gentleman of the same family, about the same age and constitution, was taken similarly, and another physician was called in, and he diagnosed inflammation of the muco-muscular coats of the intestines, resulting from atmospherical influences and suspended secretions, especially of the liver. The prescription was, calomel 12 grains, opium 2 grains, to be given at once. Spt: Eth: Nitros: 40 drops and Vin: Ipecac 1 drop, to be given in mucilage every hour; warm fomentations applied to the abdomen; boiled milk given as nourishment—this was at night—and a seidlitz powder to be given the next morning. At 9 o'clock A. M. the next day he was reported as resting quietly most of the night, while the medicine had acted gently three times, bringing large bilious discharges, with almost entire relief of tormina and fever. The nitre and ipecac, with boiled milk, were continued every two hours, and one gr. opium and ½ gr. calomel three times a day. On the fourth day he was discharged well—I have no doubt that the quinine was the most potential factor in the fatal result of the first case. In the latter, the pulse and temperature were as high as in the first, and both lived in the same climate, drank the same water, ate at the same table and slept in the same house. If there were malaria in the first, there must have been in the second, and yet no quinine was given in this, and the patient recovered; while the other one died.

Always must doubt and uncertainty, or reckless empiricism, mark the practice of medicine if diseases are treated with reference to their causes or symptoms. The same disease may spring from a great number and variety of causes, which under varying circumstances and conditions are often diametrically opposite. Heat and cold may under different surroundings or conditions produce like effects—so, also, may symptoms ostensibly similar spring from opposite states of the system. This has been beautifully illustrated by Marshall Hall in his work on the Loss of Blood. The only rational and scientific system, therefore, is to learn the language of nature, as she gives expression to her troubles through the symptoms, and treat the disease according to its nature, and not according to symptoms or supposed causes. To discuss inflammation, resolve congestion, restore perverted functions, and eliminate morbific matters from the blood, will suppress the efficient cause, remove the symptoms, and re-establish health; to do this will fulfil the whole duty of the therapeutist. In a future article the etiology of fever will be more fully discussed.

ARTICLE III.—A STUDY OF EPILEPSY.* By J. J. CALDWELL, M.D. Baltimore.

Epilepsy is an affection characterized by a disturbance of the nervous system in which there is a sudden and deathlike anæmia of the brain and nerve centres. The phenomena pertaining to it may indicate either functional derangement or organic lesions, and hence the disease may be curable or incurable. In support of the views of the writer, a number of authorities, facts, and theories can be educed.

Shroeder Van Der Kolk first pointed out changes occurring in the nervous system in epilepsy, viz: considerable dilatation of the vessels, especially in the posterior half of the medulla-oblongata. Kroon has observed in epilepsy abnormal and unsymmetrical development of the olivary bodies, with asymmetry of the medula-oblongata.

Solberg found in nine cases of epilepsy a constriction of the spinal canal from hypertrophy of the jugular process of the occipital bone and posterior arches of the atlas and axis with secondary atrophy of the medula-oblongata—the latter being considered the point of departure of the epileptic attacks.

Libert and Delasauve called attention to Ammon's horn, a lesion which Meynert has more recently investigated. He considers this lesion secondary, and the epilepsy due to changes in the more remote parts.

Kussmaul's experiments upon animals in which Ammon's horn was removed had no effect either in producing, or upon the intensity of, the general convulsions.

Nothnagel has recently produced a lesion of Ammon's horn (by incision and injection of chromic acid) which produced no epilepsy, although the animal succumbed rapidly to venesection.

Pathological anatomy furnishes us with very few data with regard to the nature of epilepsy, and more importance must therefore be attached to experiments made in this direction. The experiments have been performed under the following different conditions, viz: compression of vessels more or less remote from the brain; arterial anæmia or nervous hyperæmia, and, as a consequence, eliptiform convulsions; general convulsions produced by direct irritation of the surface of the pons and medula-oblongata: epileptiform convulsions from lesions of the cord and certain spinal nerves, and from traumatic or electrical irritation of the encephalon; and, finally, irritation of the cord, by means of toxic substances rendering animals epileptic.

The first experiments which opened the way to the study of epilepsy were performed by Sir Astley Cooper. He demonstrated upon rabbits that ligature of both carotids and compression of the vertebral gave rise to loss of consciousness, suspension of the respiratory movements, and convulsive attacks.

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* A paper read before the American Medical Association.

Travers and Marshall Hall noticed, for the first time, the similarity of convulsions which rapidly occurred in man and warm-blooded animals after excessive hemorrhages to the convulsions of epilepsy and eclampsia. Hall placed the origin of these phenomena in the cord. Twenty years later Kussmaul and Tenner repeated these experiments more cautiously and rigorously on rabbits, dogs, and cats. In vigorous animals rapid and abundant hemorrhages produced epileptiform convulsions similar to those due to ligature or compression of the carotids and vertebrals.

Other experiments by the same investigators (K. and T.) by compression of both carotids, which were confirmed later by Wachsmuth, and a certain number of cases of ligature of the carotids in man, have shown that under such circumstances all the symptoms of an epileptic attack may occur.

By ligating both subclavian arteries and the arch of the aorta in rabbits and by bleeding animals, after transverse section of the cord, it has been found that interruption of the blood-supply to the cord never produces strong convulsions (as Marshall & Hall believed), but merely paralysis or slight tremulous movements.

Kussmaul and Tenner, in a series of experiments, have shown, by placing a watch-glass at the opening of a trephined skull without allowing the air to enter (Donder's plan) that compression of the carotids causes capiliary anæmia and venous hyperæmia of the brain and meninges. When the blood is again permitted to freely traverse the vessels of the neck, the brain assumes a very red hue and a very marked momentary cerebral hyperæmia occurs, which is unattended by convulsions. Raising the vault of the cranium and allowing the escape of the cerebro-spinal fluid had no effect upon the convulsions produced in the experiments we have mentioned, and, consequently, they were not due to the cessation of the mechanical pressure upon the brain but to the interruption of the supply of blood and to the sudden arrest of nutrition thus produced.

Other experiments have been performed to locate more exactly in the brain the centres of convulsive movements. These experiments showed that this centre is situated in the motor regions behind the optic thalamus (cerebral peduncles, tubercula-quadrigemina, etc.), which were irritated by the sudden interruption of their nutrition. In a case of ligature of both vertebrals and one carotid, epileptiform attacks were produced by electrical irritation of the sympathetic nerve upon the side of the permeable carotid.

Laudois has obtained interesting data with regard to the influence of venous-hyperæmia of the brain and cord upon the appearance of epileptiform convulsions. Upon momentarily obliterating the superior vena-cava in rabbits, he observed a diminution in the number of pulsations; venous congestion of the parts situated between the tubercula quadrigemina and the cord caused complete arrest of the heart, as in asphyxia, with epileptiform convulsions.

Herman has also produced epileptiform convulsions in rabbits by simultaneous ligature of the superior and inferior venæ-cavæ. These experiments substantiate those made by Schroeder Von der Kolk.

Nothnagel has experimentally demonstrated the rôle played by the pons varolii, and the medulla oblongata in general convulsions, and, by irritating the brain with a needle, he has endeavored to locate the true boundaries of the "convulsive centre." Upon irritating the floor of the fourth ventricle, the lower limit is found to be the upper part of the alæ cineriæ; the upper limit is situated above the "locus cœreleus," the inner limit is formed by the upper border of the eminentia teres; the outer boundary is more difficult to determine, and appears to be formed above by the lateral border of the "locus cœrelius," and below by the acoustic tubercle and fascia gracilis. The depth of the puncture is immaterial. We cannot believe that the irritation of a small number of motor fibres is the cause of convulsions, since this would be insufficient to produce general convulsions. The latter must therefore be reflex in nature, since, after section of the medulla oblongata, the spasms are not produced except upon irritation of the surface which unites the lower border of the pons with the upper border of the acoustic tubercle. It follows that the convulsive centre which transmits the stimulation of the sensory to the motor fibres is not situated in the medulla oblongata, but in the pons varolii. This agrees with the experiments of Schiff and Deiters, and with certain pathological observations (hemorrhages into the pons). The relation of lesions of the cord, or of certain spinal nerves, to epilepsy was noticed for the first time by Brown-Séquard, who has cleared up this question by numerous investigations. These experiments were most successful upon Guinea pigs. After making transverse incisions through one of the lateral halves, or through the posterior part of the cord, in the dorsal (lumbar) region, it was found that epileptiform spasms developed during the next three or four weeks, when the skin of the lateral portion of the neck or face (epileptogenic zone) was pinched. At a later period the convulsions also appeared spontaneously. The same results are obtained by incising the cord very near the medulla, or by cutting the sciatic nerve near its origin. But epilepsy will not result if the cord has been cut immediately above the point of emergence of the roots of the sciatic nerve.

Convulsions may be experimentally produced in Guinea pigs, even after the removal of the cerebrum, pons, and cerebellum, by keeping up artificial respiration. In one case the young of one of the animals which had been rendered epileptic suffered from spontaneous attacks of epilepsy, thus establishing heredity as an etiological factor. Whestphal has shown that in Guinea pigs blows upon the head may immediately give rise to the production of epileptiform attacks, and that in these cases the convulsions will result, even after several weeks, from pinching the skin of the epileptogenic zone.

Transverse sections of the cervical cord and of the medulla oblongata showed as constant lesions small hemorrhages attaining the size of a pin's head in the white and gray substances. The lesions often extended downward into the dorsal region, and there was usually a hemorrhagic effusion into the cavity of the spinal dura mater. In rare cases a slight hemorrhage was observed at the base of the brain. According to Ferrier's recent researches epileptiform convulsions may be produced upon the opposite side of the body by passing strong induced currents through one of the cerebral hemispheres.

An analagous observation has been made by Bartholow in a woman whose left cerebral hemisphere was exposed by a carcinoma of the skull. The application of an induced current to the brain gave rise to epileptiform convulsions upon the opposite side of the body. According to Magnan injections of absinthe in dogs give rise to epilepsy followed by stupor. Autopsies upon these animals showed intense hyperæmia of the medulla oblongata and a diffuse rose color and strong vascular injection in thin sections of the brain and cord.

Brown-Séquard has observed contraction of the vessels of the cerebral pia mater in epileptic animals. The investigations of Loven, Nothnagel, and others have shown that irritations of the peripheral nerves act in the same manner upon the cerebral vessels. This explains the appearance of epileptic seizures under the influence of peripheral irritation.

Dr. Howe says: "It was noticed many years ago that patients suffering from epilepsy were in the habit of gratifying the venereal sense in many curious ways. Their erotic tendencies were developed without regard to time, place, or circumstances. And it was believed that epilepsy, or the same lesion in the nerve centres which produced epilepsy, was a prime factor in disordering the sexual functions. Further investigation, however, showed that the sexual vagaries of the patient existed long before the convulsions appeared, preceding them by many years, and that the epilepsy of such patients was due to over-excitation of the nervous system by the secret vice. Of this there can be no doubt. The irritability of the nerve centres is remarkably increased in all onanists. Especially is this true of that portion of the brain known as the 'tuber annulare,' a collection of gray matter in the pons varolii. This point is the great centre which governs sensation and voluntary motion. Longet says that all sensations coming from the periphery to the brain are converted into motor impulses through this ganglion, and any undue irritation of the part will excite irregular muscular movements. The abnormal excitability of the medulla oblongata, which also arises from the secret habit, is said to be an important factor in producing these convulsions. Hammond considers that all forms of eclampsia arise from abnormal irritability of this portion of the nervous system. Wherever the actual starting-point of the convulsions may be, one thing is certain, viz., the condition of the nervous system is such that slight irritation from within or without may develop involuntary spasmodic contraction of the muscles ordinarily under the control of the will."

Dr. Baker, of the Cambridgeshire Asylum, says: "In seven out of ten cases of chronic epilepsy in the male sex, the genital organs are the great source of excitation, and generally from the morbid state in which they are kept by the habits of the patient."

Dr. Flint relates the case of a young lady twenty years of age, who suffered from daily epileptic fits for three years. She stated that the habit of masturbation was taught her at the age of six, and had been indulged in daily until she was sixteen. Afterwards her mind was constantly filled with lascivious dreams, and during the three years of her epilepsy lascivious dreams attended by an orgasm had occurred every night.

Baker Brown, of London, attributed the cause of epilepsy in young females to the same cause, and partially proved his theory by amputating the clitoris in each case coming under his care. The operation was remarkably successful, a large majority of his patients making a complete recovery after the operation. Some years ago I had an epileptic masturbator under treatment in Charity Hospital. He foiled every attempt to prevent him from masturbating. The penis and scrotum were blistered, so that he could not touch them, but he still managed to complete the act by rubbing the perineum with his fingers. His hands were tied behind his back, but this also was unsuccessful, for the next day he was seen to slide down to the foot of the bed and rub his perineum against the footpiece. He was finally tied hand and foot to the bed, so that he could not move a muscle. This plan, of course, could not be continued, and when he was released in order to change the bedclothes, or to perform some other necessary duty, his hands almost instantly sought the neighborhood of his genital organs. He was sent subsequently to an asylum as incurable.

Fourier reports an interesting but equally painful case, viz., that of a soldier, who was the subject of convulsions from sexual indulgence and masturbation. In the midst of his most violent paroxysms he endeavored to excite himself and produce an orgasm. This condition lasted six months, when death released him from his sufferings.

Zimmerman speaks of a patient under his care who endured an epileptic convulsion whenever he masturbated, or had nocturnal pollutions. Every emission, irrespective of its cause, was invariably accompanied or followed by a convulsion.

Esquirol mentions the case of a young woman of an ardent temperament who became epileptic three days after marriage. It was supposed by her physician to be a direct result of inordinate indulgence in sexual congress.

Occurrences like these quoted are numerous. Hospital records are full of them, and they are not exceptional cases either, selected to prove a theory for the satisfaction of the originator. They make up a very large number of the epileptics in all the hospitals where such cases receive special care and medical supervision. They prove that epilepsy is one of the goals towards which all masturbators and libertines are hastening, and one which is reached in a very short space of time when the will power to prevent excess is weakened or destroyed.

Dr. Tanner gives the following description of the symptoms of epilepsy: Cadaverous pallor of countenance, with utterance of a shriek or scream; immediately after which the patient falls to the ground, and frequently on his face, senseless and violently convulsed. Severe burns, fractures, dislocations, etc., may be produced. Convulsive movements continue violent, usually more marked on one side of the body than on the other. There are gnashing of the teeth, foaming at the mouth, and protrusion of the tongue, which is often severely bitten. Eyes partly opened and suffused, eyeballs rolling, and pupils insensible to light. Skin cold and clammy. Perhaps vomiting and involuntary micturition and defecation. Breathing laborious, and seems about to be suspended. When the limbs are stretched out, a deep sigh is drawn, and the attack goes off. The patient is left insensible, and as in a sound sleep, with stentorious breathing, from which he recovers with headache and a feeling of stupor and exhaustion, but without any knowledge of what he has gone through. Some hours subsequently small echymoses, like flea-bites, are often to be detected about the forehead, throat, and chest.

In feigned epilepsy, the imposter does not fall violently, but throws himself down deliberately in such a way as to avoid injury. The eyes are closed, the pupils contract to the stimulus of light, the tongue is not bitten, the face is red instead of deadly pale, while the skin is hot from necessary exertion; neither urine nor fœces are voided. Proposing to apply actual cautery, or to shave the head, often effects a speedy cure. Blowing snuff up the nostril changes the fit to one of sneezing.

Says Dr. Archer Atkinson, of Baltimore: "Epilepsy is essentially a nervous affection, but it would be difficult to find one exact definition of what constitutes the disease. It is very variable in its coming and going, and in its effects. It is mostly an hereditary affection, though we often find it produced by concussion of the brain. It is common to hear such a patient spoken of as a man in a "fit." We generally find him in a helpless, unconscious condition, thoroughly dead to outside influences, though with slowly returning consciousness. Many great men have been subjects of epilepsy, viz., Cæsar, the great Napoleon, and Petrach, the lover of the beautiful Laura. And yet, the great characteristic feature of epilepsy is loss of consciousness, and we generally associate feebleness of mind and will with that of the muscular system in epilepsy.

Strange to relate, the symptoms occur in those who have been the great actors in the world's history. Between the paroxysms the mind is clear enough, but the repetition of the fits will enfeeble the mind and body. The diseased state is one of great uncertainty, though it is commonly thought to be an evidence of anæmia of the brain. Drs. Jackson and Ferrier caused epileptic convulsions in animals by the application of strong galvanic currents to certain convolutions of the brain; and yet when these same convolutions have been cut off, their loss has not been followed by paralysis. But where they remained *in situ*, and were stimulated by the battery, epilepsy followed.

The time of life for the first seizure is generally between the tenth and the twentieth year, but you will see cases even long before this age. Many cases go on for a long time before they are recognized, having been mistaken for spasms caused by indigestion, by teething, by worms, or by nervous troubles.

Fright, too, has been known to give rise to attacks, and the disease is a frequent result of drunkenness. Or, the child may inherit the disease from a drunken parent who has never himself exhibited any signs of it.

Heredity, there can be no doubt, is the chief cause. Twenty-five per cent. of the cases referred to by Dr. Gonzalez Echeverrio, of New York, in his work on this subject were from hereditary influence, and in Reynolds we find that he ascribes as many as thirty per cent. to hereditary transmission.

Many cases are kept secret for fear of exposure, or else there would be a greater percentage than that named. Whether tobacco is a factor in causing epilepsy is not known, though it is a drug of great power for evil. Early marriages, excessive venery and masturbation, especially in young boys, are thought to bring on the disease. Syphilitic inheritance may be the means of entailing the disease on the offspring, and this likelihood is increased when the parent is addicted to drunkenness. In females it has been ascribed, as every other nervous trouble at the present time, to some uterine derangement.

Treatment.—Says Dr. Archer Atkinson: "The treatment of epilepsy, to be of any avail, must consist first in removing the cause, if possible, and next in lessening the influence of the operating cause upon the nervous system by suitable remedies, and by building up the system to resist the cause. We should look for injury of the skull, for injury of the brain, injury by compression and by concussion; also for a diminution of the supply of blood to the brain; for the action of fright, grief, or other violent emotions; for the existence of worms, for the cutting of the wisdom teeth, for spermatorrhœa, for too much study in school and too much confinement in the house for children. Having removed the cause, as far as possible, we are to consider what is best to do during the seizure. We may assist nature by applying cold cloths to the head, and warm cloths or warm bricks, bottles or cans of hot water, and mustard to the hands and feet; by loosening the trappings around the neck and waist, and by laying the patient in a supine position, keeping him from biting his tongue by putting a soft bit of wood or cork between the teeth, and seeing that he does not swallow it unconsciously.

When the symptoms are referable to the brain chiefly, we should be particular to remove from the stomach all sources of irritation, and see that suitable food is taken in proper amount. Epileptics are apt to bolt their food, and in occasional cases regulating the diet will accomplish more than medicines. Restrict the diet to the simplest food, and you effect much good. When there are indications of worms, adopt measures to rid the patient of them, for they form central sources of irritation. Habit has much to do with the paroxysms of epileptics, and any impression which interferes with the regular attack or which is suddenly and violently brought to bear may avert the coming attack, and hence it is that Brown-Séquard has suggested pulling the toe or the inhalation of a little carbonic acid gas. When the seizures occur at night a good dose of chloral hydrate or the hypodermic injection of morphia will often prevent the attack for that single night. The nitrite of amyl will now and then prevent an impending attack, just as it prevents an attack of spasmodic asthma or mitigates it when present. Anything which strongly excites the nervous system is to be positively forbidden, as tobacco, whiskey, wine, and all other forms of stimulating drinks. It is also best to proscribe strong tea and coffee as a constant beverage. When the stomach gives trouble we use such stomachic tonics (preferably the infusion of colombo) as will assist that organ, adding some alkali, if needed, or some dilute mineral acid, as may be indicated. When the intention is to give the bromides, we may very well make this infusion of colombo the vehicle for their administration. Brown-Séquard combined such infusion in his favorite prescription for epilepsy, which is as follows:

℞ Potassii Iodidi ʒj.; Potassii Bromidi ℥j.; Ammonii Bromidi ʒiiss; Potass. Bicarb. ℈jj.; Infusion, Columbæ f. ℥vj. M.

Of this he directed one teaspoonful before each of the three meals, and three teaspoonfuls at bed-time in a little water.

The remedies lauded in this disease have been legion, embracing zinc, iron, valerian, musk, assofœtida, camphor, nitrate of silver, quinine, oil of turpentine, ammoniated copper, and lastly, all the bromides, used either singly or in combination. Indeed, almost every new medicine does for a week or so, and then loses its effect. The chief point in treating this affection is to give the drugs selected so as to secure their full effects in the soonest time consistent with safety, and above all, not to evince to the patient that you are at any loss for remedies. Laxatives are of the utmost use, such as confection of senna and magnesia or rhubarb, the compound pill of rhubarb, and the Lady Webster or Chapman's dinner pill in cases when these suffice, the opening effect being kept up by some of the mineral waters such as the Friedricshall, the Hunyadi János and the sulphur waters. The system should not be allowed to become anæmic, and thus we find iron and zinc with the preparations of bark useful.

Trousseau thought highly of belladonna, and pushed its alkaloid atropia gradually up to its mildly toxic effects, increasing by a single drop of the solution each day. He also liked the mixed plan of treatment of belladonna and nitrate of silver, alternating with the cupric and zinc sulphate, say every ten days. But for the past few years the bromides (chiefly that of potassium) have been mainly relied on, and Brown-Séquard thinks that a mild purgative every few weeks will go far to maintain their good effects.

Should the bromides affect the system injuriously by inducing anæmia or an approach to bromism, tonics should at once be combined with them, as the tincture of bark, or the elixir of iron, quinine, and strychnia; taking care, if the the strychnia effects are wanted, to see that the dose of the bromides is increased from the known antagonism of action of the two drugs. Dr. Radcliffe writes that he has since 1858 been more and more pleased with the action of the bromide of potassium, and that he has concluded it to be the only remedy in epilepsy on which much reliance can be put; and the translator of Trousseau's clinical lectures says: "The results obtained are such as to warrant the conclusion that it is infinitely superior to all other remedies that have been recommended against epilepsy." He thinks it " far superior to belladonna in lessening the number and the severity of epileptic attacks, and, in some instances, of bringing on a cure." Dr. Reynolds speaks of it as "the one medicine " which has proved of service in the treatment of this disease; in some cases completely curing the patient, in others prolonging the intervals of attacks from a few months to two or three years. In such cases, where the medicine was suspended, the seizures would often return, to cease again on the renewing of the remedy, while in others the bromides lessened the number of usual fits by one-half. Dr. Voisin, of the Salpêtriére Hospital in Paris, says that it does not absolutely cure the disease, but diminishes it in a marked degree. Dr. Edw. Fox gives fifty-two cases where this bromide, in 20-grain doses and over, was satisfactory. In ten cases, however, it totally failed, while in these last belladonna was comparatively successful. Dr. Seguin calls attention to the fact that all the bromides tend to lower the powers of the body, causing impaired nutrition and general nervous atony, general debility, with slow pulse and coldness of the limbs, difficulty of articulation and a likelihood to stupor. These are serious drawbacks to their use ; and, in addition to the above, we find the potassic bromide especially liable to defibrinate the blood when long continued. Hence the great importance of combining it with a vegetable tonic. When we have complications from syphilis, the iodine preparations form the best additions to the epileptic remedies. Seguin's plan of using the bromides in this and other kindred affections is in accordance with the following rules:

(1) The prolonged use of these salts is contra-indicated by congenital feebleness, but they are all borne by persons of fairly full habit and good nervous power.

(2) The bromides are indicated in cases of abnormally great irritability of the nervous system in its motor (muscular and vaso-motor) and ideational tracts.

(3) These contra-indications are to be less regarded in the management of that formidable neurosis, epilepsy.

(4) Epilepsy is to be regarded as the only disease which justifies the deliberate production of a degree of bromism for its cure.

His mode of prescribing these salts in a case of " idiopathic " epilepsy, is to alternate the bromide of potassium and that of sodium. He therefore uses two mixtures, the first of which is ℞ Potassii Bromidi ℥j. Ammonii Brom. ℥ss. Aquæ ℥vij. M.

The second is ℞ Sodii Bromidi ℥j. Ammonii Bromidi ℥ss. Aquæ fontanæ ℥vij. M.

This he arranged so as to give by far the greatest dose at night—pushing the medicines until slight bromism is brought on.

To obviate the depressing effects of the bromide we will find useful the compound syrup of the hypophosphites, either the simple formula as prepared by McArthur or the more complicated formula by Fellows ; containing, in addition, quinine, strychnia, and the phosphate of iron. Warm bathing is important in order to keep the skin active; but this is too often neglected. Salt hot water bathing and massage are both beneficial.

The sulphate and the oxide of zinc have long been used with confidence in epilepsy, as also the nitrate and the oxide of silver, but you will find that the nitrate will be followed by no result save that of producing the slate-discoloration of the skin which always follows its prolonged use.

The doses of the sulphate and oxide of zinc are small to begin with (¼ to 1 grain), but by degrees the stomach becomes accustomed to increasing doses. During the existence of the paroxysm we can do little for the patient save to prevent him injuring himself and to prevent officious and injurious interference. The vaunted remedies of the newspapers consist chiefly of the various bromides in some vegetable tincture or infusion, and their sale is kept up by continued advertisements. The bromides are all useful and it is well to combine them all, remembering that all the rest contain bromide in greater amount than does the potassic bromide. This plan should be kept up persistently during the continuance of the disease, and for an almost indefinite period after the attacks have apparently ceased. If the patient is likely to have acne from the action of the remedies, we can combine one or two drops of Fowler's solution with each dose. In children who are epileptic from masturbation we must see that they are kept profoundly asleep until the awaking of the nurse or mother. Where syphilis is the cause we will see the best effects following the cautions, but continuous, administration of the bichloride of mercury with the iodide of potasium or of sodium in some tonic tincture, or if the later manifestations are present, we find most good from the bisulphide of mercury with free doses of iodide of potassium.

REPORT OF CASES.

Case 1.—N. G., aged 40, had suffered for many years from frequent attacks of epilepsy acquired in youth. After suffering ten years with this disease, he was seized with an acute attack of gout of the hands, which laid him up for two weeks. Since, he has suffered gout frequently, but never any more epilepsy.

Case 2.—Columbus C., aged fifty. While at sea, many years ago, he received a severe blow on the skull, which left a deep depression on the right parietal bone. Epilepsy followed frequently until within one year of his death, when it was suppressed. He became insane, and made many efforts to commit suicide, which he finally accomplished by cutting his throat.

Case 3.—Mr. T., aged 68, who inherited a neurotic tendency. Through life he was addicted to drink and every excess. He suffered from epilepsy and insanity, and finally committed suicide. The history of his family shows a tendency to insanity, to epilepsy, to suicide, except where gout or diabetes developed. Those who suffered from the latter were free from epilepsy, and had good business qualities; and this history has been traced back in the family for over one hundred years. Hence their progeny is now almost extinct.

Case 4.—Mrs. V. aged twenty. After the birth of her first child she had severe epileptic attacks, until some remnants of membrane were removed from her uterus, when she was immediately and permanently relieved.

ADDENDA.

The following points are contributed by Dr. Clarke, of Baltimore:

Recognition of Occurrence of Attacks.—Severe convulsive attacks are such obstrusive phenomena that there is little difficulty in ascertaining their occurrence, except in the cases in which they come on only when the patient is asleep. If the patient is not awakened by the commencing attack, and sleeps on when it is over, the convulsion in an event of which he may be entirely unaware. Usually, however, there are some subsequent indications of the attack. The tongue is bitten or sore, there is a little blood upon the pillow, or there are small echymoses upon the face of the patient, or an extravasation beneath the conjunctiva. I have known a patient to have convulsive attacks at night every few months for eighteen years, without being aware of their occurrence. His tongue was occasionally found bitten in the morning, but the significance of this was not suspected, and the patient took no notice of it until an attack occurred in the day-time. In Trousseau's case nocturnal fits were only discovered by a dislocation of the shoulder, and the nature of this, from its occurrence during sleep, was at first mistaken. Minor attacks are often unrecognized by patients or their friends. This is not because they are unnoticed, for since they occur in the day, they rarely escape observation, but it is because little importance is attached to them on account of the slighter character. It is usually sufficient to be aware of these common forms and to inquire for them to learn their occurrence.

Distinction of attacks from paroxysmal symptoms with which they may be confounded.—Is the convulsion a manifestation of idiopathic epilepsy, or is it due to reflex irritation, to toxæmia, or to organic brain disease, active or quiescent? Among the cases commonly regarded as the effect of reflex irritation are commonly included the convulsions which occur in young children at the first dentition. In almost all such cases the defective osseous development, which is called "rickets," is recognized. It is probable that in many cases such convulsions occur without any distinct peripheral irritation, since a mere emotion or puff of air upon the face is often sufficient to produce them. They are usually referred to the backward dentition, to the irritation of the teeth. That such irritation may act as an exciting cause is undeniable, but it is certain that the backwardness of the teeth has not the significance as a source of irritation which is commonly assigned to it; the retarded dentition is simply part of the diathetic state and is not necessarily attended with any irritation. Convulsions at the period of second dentition may also be a result of the irritation involved in the shedding and growth of the teeth, and in all cases commencing at this period the state of the teeth should be carefully attended to. But such convulsions are very rare except in persons who possess an inherited tendency to epilepsy, and too often they continue although the dental irritation is removed. Of other sources of reflex convulsions, the most frequent are intestinal worms. Tape worm and round worms occasion them, but it is doubtful whether thread worms cause them. Irritation of indigestible food may also occasion epileptic convulsions. It is doubtful whether such fits are found in patients who have no hereditary predisposition to the disease.

The distinction of toxic convulsions, such as are caused by alcohol, the blood-state in kidney disease, and chronic lead poisoning, is rather etiological than clinical. Cases due to alcohol are usually plain, as they often recur during the state of intoxication. The convulsions due to acute uræmia rarely present any difficulty, since the other signs of the blood-state are sufficiently convincing. They are, as far as I have seen, due to granular kidney. Chronic fits due to lead poisoning are, so far as I have seen, bilateral and often begin with a visual aura. Their diagnosis rests on the detection of their cause.

Organic causes of Epilepsy.—Convulsions often attend the onset of acute cerebral lesion or occur during the early stages of the lesion. Cerebral hemorrhage or cerebral softening from vascular occlusion may cause seizures, but the same lesion may cause also the obstructive symptoms. A convulsion beginning unilaterally may cause transient hemiplegia, and if the convulsion is the first from which the patient has suffered, a doubt may exist as to whether both convulsion and paralysis are not the result of an acute cerebral lesion. The weakness succeeding the hemiplegia very early amounts to complete paralysis; it is most marked in the limb (arm or leg) in which the fit commenced; and it passes away in the course of a few hours. When, on the other hand, the convulsion and paralysis are the result of an acute lesion, the paralysis is at first usually complete; it affects both arm and leg, and it scarcely ever passes away in the course of a few hours, usually lasting for days or weeks. In most cases, however, the patient has had other fits beginning unilaterally, and then, especially if the paralysis is incomplete, the diagnosis of post-epileptic hemiplegia may be made with confidence.

In cases of softening from vascular obstruction, convulsions may occur a few days or a week after the onset, apparently from the adjacent irritation consequent on the strain upon the collateral vessels. In these cases the convulsions succeed paralysis and the diagnosis of their cause presents no difficulty.

Chronic active brain disease, especially tumor and chronic meningitis, may cause convulsions closely resembling those of idiopathic epilepsy. The convulsions usually begin locally and affect one side first or only. In all cases of convulsions so commencing, and also in the case of those beginning with a visual or auditory aura, the probability that they are due to organic brain disease must be borne in mind and careful search made for other symptoms. The mere fact of local commencement and deliberate march does not alone constitute evidence that there is organic brain disease (such as tumor or meningitis), since fits begin thus in idiopathic epilepsy not at all rarely. Moreover, the convulsions of organic disease may not begin locally; they may begin with the common aura of idiopathic epilepsy, the epigastric-throat aura, as in case of tumor of the pons. In such a case, however, organic disease would not be thought of unless there were other symptoms to suggest it, whereas if fits begin locally this should be the first idea.

The other symptoms which commonly concur with convulsions in organic disease are the following: headache, felt not only after the fits but during the intervals; hemiplegic weakness; persisting paralysis of cranial nerves; vomiting; optic neuritis. The latter symptom is of extreme importance, since, as Hulings Jackson long ago insisted, coexisting with convulsions of local commencement, it is all but pathognomonic of organic disease. Syphilis is so frequent a cause of such organic disease as causes chronic convulsions, that a history of it gives significance to symptoms otherwise doubtful. The mere occurrence of convulsions in a subject of constitutional syphilis does not prove the existence of organic disease, since the fits may be due to idiopathic epilepsy, and the two diseases only accidentally occur together or are indirectly connected. But if the convulsions begin locally, and thus indicate some local change in the brain, a history of constitutional syphilis makes it extremely probable that there is organic disease of syphilitic nature. In the same manner, a history of syphilis gives additional weight to other symptoms of organic disease, whatever may be their character. Convulsions may not only result from active brain disease, but also from brain disease which is no longer in an active state, which has become quiescent, or has even retrogressed, so that merely a cicatrix may be found on post-mortem examination. Such disease may be one which, in its active state, commonly causes convulsions, such as cerebral tumor. The other symptoms, as headache, optic neuritis, paralysis, may pass away, but convulsions persist by a continued morbid action of gray matter which was damaged by the irritation of the brain in its active stage. For instance, a man who had constitutional syphilis, suffered from convulsions, optic neuritis, and severe headache, and a syphilitic tumor of the brain was diagnosed. The optic neuritis and headache passed away, but the fits persisted and some time afterwards he died in a series of convulsions, killed apparently by their violence. Post-mortem there was found the atrophied remains of a gumma in the under part of the right frontal lobe. In a large number of these cases the convulsions begin locally and are thus of the character to suggest organic disease. Whether they begin locally or not the history of the disease shows that at the onset there were symptoms of organic disease and usually makes the nature of the case clear. Frequently, also, some of the early symptoms persist, as hemiplegic weakness, optic-nerve atrophy such as is produced by neuritis, hemiopia, etc.

In a very important group of cases an acute lesion of the brain, in most if not all cases, softening from thrombosis or embolism, causes first hemiplegia and afterwards convulsions, which may persist as long as the individual lives, although the hemiplegia passes away wholly or in part.

Etiology.

In many cases the disease dates from childhood, but in most the history of the onset will indicate the nature of the case. Whenever epilepsy begins with severe convulsions in early life, especially if these occurred during the course of, or after an acute specific disease, inquiry should be made for hemiplegia after the early fits. The parents frequently omit to mention it, attaching chief importance to the convulsions. In most cases the recurring convulsions affect first or only the side on which the hemiplegia existed, and frequently begin locally.

Gowers thinks masturbation is not frequently a cause of true epilepsy, but induces a class of what he calls untypical cases, sometimes hysteroid and sometimes intermediate between epilepsy and hysteria. Gowers noted an important relation between heart disease in its various forms and epilepsy. He found it present in ninety-three cases, although he does not claim these to be the only cases in the great number he has investigated. Hereditary predisposition should be carefully investigated, and its bearing upon each particular case duly noted, both as regards treatment and prognosis.

PROGNOSIS.

1. Danger to life. 2. Prospect of spontaneous termination to the disease. 3. Prospect that by treatment disease may be cured or the attacks arrested.

1. Danger to life in epilepsy is not great. The chief danger of death in an attack is liability of accidental asphyxia, if an attack should occur while eating, or of vomiting after an attack with same result, or should patient turn on face in bed, being suffocated in the post-epileptic insensibility. There is also risk of being burned; but the commonest mode of accidental death is from drowning. 2. The prospect of spontaneous cessation of attack is too rare to be reasonably anticipated in any given case. The menstrual period exercises a very slight influence in this regard. After twenty years spontaneous cessation does sometimes occur.

3. Probability of cure or arrest by treatment.—Gowers cites forty-three cases as uninfluenced by any method of treatment, one hundred cases in which the attacks were arrested so long as the patients remained under observation.

1. Sex. 2. Age at commencement. 3. Duration. 4. Inherited tendency. 5. Exciting cause. 6. Frequency of attack. 7. Condition of patient under which attacks occur. 8. Existence of aura. 9. Mental state. 10. Character of fits.

All these points should be studied with reference to prognosis.

TREATMENT.

1. Bromides. 2. Pot. sodii, ammonii, nickel, etc. 3. Digitalis. 4. Belladonna. 5. Strammonium. 6. Cannabis indica. 7. Gelsemium sempervirens. 8. Opium. 9. Zinc. 10. Iodid. pot. 11. Bromide camphor. 12. Iron. 13. Borax. 14. Mistletoe. 15. Turpentine. 16. Cocculus indicus. 17. Counter irritation. 18. Trephining. 19. Castration.

ORIGINAL TRANSLATIONS.

[*Continued from Page* 169.]

CLINIQUE DE LA PITIE. M. DEBOVE. LECTURES UPON PARASITIC TUBERCULOSIS. Reported by DR. FAISANS, *Chef de Clinique*, and Revised by the Professor. From the *Progrèss Médicale.* Translated by H. McS. GAMBLE, M.D., Moorfield, West Va.

Among the causes which predispose the most to tuberculosis must be mentioned heredity ; but its importance has been exaggerated by confounding heredity with the contagion which may result from family associations. It has even been said that phthisis was almost always hereditary.

Did hospital clinics contradict this opinion, the patients were accused of not having exact information as to the health of their progenitors; when it was a question of patients observed in the city, affirming that their tuberculosis was purely accidental, they remained incredulous, suspecting the parents of concealing the existence of phthisis as a blot upon their family. If we should seek to resolve the question by the examination of the patients actually under our charge, we would be obliged to conclude that phthisis is not hereditary. In reality, our personal observations tend to compel us to admit that heredity, frequent enough in the city, is rare in the hospital. The patients belonging to the clientèle are in conditions of well-being which allow feeble generations to perpetuate themselves; the hospital patients, recruited from classes in which the struggle for existence, singularly hard, commences at the entrance upon life, cannot beget several generations of consumptives, so the predisposition to phthisis is among them, most frequently, not hereditary but acquired.

Numerous statistics have been collected to prove the frequency of hereditary phthisis, but they present sources of error which it is difficult to avoid or to appreciate. In the same family the children may have communicated the contagion to each other, they may have contaminated their parents, and this last mode of contagion has been concealed by a word, ascending heredity. Notice also that, in regard to the great frequency of phthisis, it is necessarily common to observe patients whose father or mother or some relative has died of tuberculous. Phthisis, in a word, is so frequent that if one wished by statistics to demonstrate its relations with any disease whatever, he would find in the progenitors or the parents of a large number of patients proofs in support of this argument.

Hereditary phthisis being admitted, it may be interpreted in two ways. The individual inherits directly tuberculosis, as syphilis is inherited, or he inherits simply the predisposition, or, if it is preferred, a soil favorable to the development of the disease.

Direct heredity is not demonstrated ; it is admitted from analogy with what takes place in syphilis, where the child may be infected by the father or the mother, but the analogy is not complete. Congenital syphilis is not doubtful, it is even quite frequent; congenital tuberculosis is subject to caution, and the rare caseous lesions found by some authors in the lungs of new-born children had perhaps nothing to do with tubercles. It is a point which will hereafter be easy to elucidate, since in the question of tuberculosis only those lesions ought to be admitted in which the presence of bacilli shall be established.

One very serious objection to the theory of direct heredity is that of the long duration of the incubation. A phthisical subject, issue of phthisical parents, shows at twenty years the first signs of a disease which, up to this age, had remained latent. The thing is possible, but hardly reasonable, if we compare this march to that of other hereditary infectious diseases, such as syphilis.

The theory which explains the heredity, not by the direct transmission of the disease, but by the predisposition, is far more satisfactory to the mind, and it seems to me ought to be adopted until proof of the contrary.

When they could not demonstrate heredity in a case of phthisis, the physicians, preoccupied with tracing back the disease to birth, admitted that it was innate. They supposed that the children had brought with them at birth a peculiar constitution, different from that of their parents, by virtue of which they became subjects of phthisis. This theory is as difficult to sustain as to combat, for we have no proof of phthisis being innate in an individual other than its development or non-development. This has no special relation to the disease which occupies our attention; we bring with us at birth the predisposition to all diseases; this predisposition may be exaggerated by a series of external circumstances, and if at this moment we are exposed to their specific cause, they may develop themselves in their gravest forms.

Some subjects who are by no means predisposed to phthisis may undergo modifications which render their soil favorable to the development of this disease; it is thus that persons become the subjects of phthisis under the influence of insufficient alimentation, of pregnancy, of lactation, of diabetes, and, in a general way, of all causes which bring about what has very justly been called physiological misery.

I have before my mind two cases of anorexic hysterical patients which show the influence of inanition and its rôle as a predisposing cause in the development of phthisis.

The first was a hysterical patient, absolutely anorexic, whom we treated at the hospital. Her appetite diminished little by little, then she finished by refusing all nourishment. She grew pale, she became emaciated. We in vain made use of the greater part of the proceedings indicated by authors for awakening the appetite (we did not have recourse to artificial alimentation; at that time we had not thought of applying it to hysterical subjects). One day our patient presented signs of pulmonary phthisis, which rapidly grew worse and produced death. Our second patient was likewise a hysterical subject, who had reached such a degree of anorexia that for several months past she had scarcely eaten a few mouthfuls a day. We wished to subject her to artificial alimentation, but she refused it, in spite of our earnest insistance. She continued to emaciate, became a skeleton; then one day, seized with a fainting fit, she fell into an easy-chair and was dead. She died, if you allow me this comparison, as a lamp goes out for want of oil. Our two hysterical patients, from the fact of the inanition, had been predisposed to tuberculosis. The first became phthisical because she was treated at the hospital, in a medium impregnated with tuberculous virus; the second lived in the country, in her family, was in contact with no tuberculous person; she also died of inanition, but she presented no signs of phthisis.

The influence of inanition shows itself also in subjects suffering with stricture of the œsophagus, simple ulcer of the stomach, chronic diarrhœa, etc. These are causes well brought out as evidence by Professor Peter; for us they are but predisposing causes; contact is necessary, and it is unfortunately easy when it concerns patients treated at the hospital.

Alimentation may likewise be insufficient in a relative manner; this is the case with overworked individuals, who, giving themselves up to excessive labor, do not have an alimentation proportioned to the exaggeration of their work. It is equally the case with children who grow too rapidly, and do not eat or assimilate food enough for their support and their growth.

Pregnancy, lactation, recognized for all time as powerful causes of phthisis, do not act otherwise. It is the same with diabetes, which is so often complicated with pulmonary phthisis. So, when a diabetic drinks and eats well, when he repairs by the excess of his alimentation his increased waste in sugar and urea, he is relatively well, his lungs present no lesions; but let this super-alimentation fail, under the influence of an intercurrent disease, or of any other cause, he emaciates and becomes, or may become, affected with phthisis. This relative inanition is not, however, the only cause, the humoral alteration, the glucæmia, equally play an important rôle, and we have the proof of it in the happy influence of *régime* upon the progress of this phthisis.

Diabetic phthisis differs, moreover, from ordinary phthisis only by the soil upon which it is developed; it is equally parasitic, as the observations of Immerman, Butemeyer, and Franz Reigel have demonstrated.

Alcoholism, living in a confined atmosphere, gloomy passions, etc., etc., in a word, all the causes which bring about a profound debilitation of the economy, favor also the production of tubercles. Permit me to pass over this part of the etiology so well studied in the classical books. You will find it elucidated in a masterly way in the lectures delivered at the clinics of Professor Peter.

(*To be concluded.*)

SELECTIONS.

OBSERVATIONS ON THE MEDICAL AND SURGICAL TREATMENT OF ACUTE PERITONITIS.*—By T. HERRING BURCHARD, A.M., M.D., Lecturer on Surgical Emergencies, Bellevue Hospital Medical College; Attending Surgeon Charity Hospital, etc.

Peritonitis may well be regarded as the most fatal of the acute inflammatory diseases. After a careful compilation of various hospital statistics, etc., I think its mortality may be set down, when all varieties of the disease are considered, at about from fifty to sixty per cent., and from twenty to thirty per cent. higher when so-called "idiopathic cases" are excluded. Indeed, as is well known, there are certain cases, especially such as are incident to septic poisoning, and others that follow perforation of the bowel, in which a fatal termination may be said to be inevitable.

Believing that this mortality is unnecessarily high, and that certain patients with peritonitis are permitted to die who, perchance, under different procedures, might be saved, it is my desire to formulate and emphasize certain principles of treatment already known, although not as yet generally accepted by the profession.

All treatment, to rise above mere empiricism, must rest upon a threefold conception—a conception of the cause of the disease, a conception of the natural history of the disease, and, finally, the natural tendencies of the disease, or a foreknowledge of the mode of recovery or death. These principles apply with special pertinency to the treatment of peritonitis, and, before we can expect to treat that disease rationally, we must first know what causes it, and then how it kills.

Without going into unnecessary detail, it will suffice to know that peritonitis may originate from *external traumatisms*, from *internal traumatisms*, by extension of inflammation from contiguous parts, from septic causes and certain blood diseases (as rheumatism, Bright's disease, etc.), and possibly, though rarely, from causes that are purely miasmatic and climatic, constituting the so-called idiopathic cases.

Now what are the causes of death?

According to the text-books, collapse and asthenia. According to clinical and pathological observation:

1. *Collapse*, which represents the shock received by the nervous system from injury inflicted on the largest serous membrane of the body.
2. *Asthenia*, which may be more intelligently expressed by, *a*, heart failure; *b*, respiratory failure.
3. By inflammatory changes in the lungs.
4. By inflammatory changes in the kidneys.
5. By *hyperpyrexia* as a special cause, superinducing any or all of the foregoing.

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* Read before the New York Academy of Medicine, May 21, 1885.

Any treatment, to be successful, must be prosecuted in the light of these clinical facts, and, in this understanding, the following considerations are submitted:

1. The rarity of idiopathic peritonitis being now generally admitted, it is of paramount importance that each case should have its ætiology definitely determined at as early a period as possible.

The mere fact that peritonitis exists is not sufficient in itself to justify the adoption of any course of treatment. This primary diagnosis, like the sign-board by the wayside, simply points the way to further explorations.

So long as peritonitis is regarded as a finality rather than as the expression or symptom of some organic disturbance, but little help can be expected from other than a purely empiric line of treatment.

The views of the profession have undergone a great change in this respect. As Dr. Savage tersely puts it ("Brit. Med. Jour.," January 31, 1885), "We are learning, if we have not already learned, to look on peritonitis as a symptom of some organic change, and not as a disease in itself. And this is well for our patients, because operative measures can do much for it. We shall, ere long, regard so-called 'idiopathic peritonitis' almost as a curiosity."

In no other disease is an early knowledge of the causation of the attack so essential, and yet how often is the ætiological factor totally ignored in our haste to adopt a course of treatment which, while it mitigates symptoms and apparently gives relief, at the same time unwarily leads us on to a fatal though, perchance, a painless finale!

It is in the incipiency of the attack, before excessive tympanites has disturbed the normal configurations of the abdomen and fatal asthenia has developed, that the golden opportunity for successful diagnosis exists.

One word as to the alleged difficulties of accurate diagnosis under such circumstances. So much has been said on this subject that they have come to be regarded as well-nigh insuperable. Yet, under a systematically conducted examination, which necessitates the interrogation of each abdominal viscus and which seeks to find a satisfactory explanation for each abnormal symptom, it is surprising how the difficulties will dissipate. It is owing to a want of thoroughness in the examination and a lack of the judicial element in weighing symptoms, rather than the inherent difficulties often, that the diagnosis seems to obscure. Six times have we seen fatal peritonitis develop after acute perforation of the vermiform appendix, and in five cases out of the six has the autopsy verified the diagnosis. ("N. Y. Med. Jour.," January, 1881.)

Of nine cases of *intestinal obstruction* that have fallen under our personal observation, two cases have recovered without surgical interference; hence the diagnosis could not be verified. Of the remaining seven, a positive diagnosis was made in five. In three of these I did laparotomy—twice with success. The autopsy revealed the correctness of diagnosis in the two remaining cases. (See "Transactions of N. Y. Co. Med. Soc.," meeting of April 7, 1884, p. 296.)

These diagnoses were made and the local lesion differentiated under conditions of collapse, tympanitic distension, and abdominal pain, for these are the prominent symptoms ushering in acute peritonitis, and are cited in this connection to show that a diagnosis which is practically accurate is feasible. (For fuller information regarding diagnosis the reader is referred to an article by the author on "Operative Interference in Acute Perforative Typhlitis," "N. Y. Med. Jour.," January, 1881.)

2. The diagnosis being made, and a local lesion amenable to surgical interference being demonstrated, surgical relief should be rendered at the earliest moment practicable.

The peritonæm behaves very differently under different circumstances. It seems scarcely credible that the same structure that will passively submit to the enormous distension of a gravid uterus or an ovarian cyst, would reject so summarily the trifling local irritation consequent upon some minute intestinal perforation. Yet such is its behavior under acute irritations that the rule might well be formulated that all foreign substances, solid, liquid, or gaseous, of an irritating nature, when introduced into the peritoneal cavity, will inevitably and rapidly produce acute inflammation. The history of such traumatisms is, as we have shown, most unfortunate ; the terrible features of the attack precipitating themselves with a rapidity and malevolence that are simply appalling.

What under the circumstances, are the indications for treatment? Were the irritation located elsewhere in the body than in this much dreaded locality, sound surgical judgment would advise the immediate removal of the irritant. Why, then, should the peritonæum, a structure which is daily proving its immunity to surgical manipulation by giving to surgery its brightest triumphs, not be subjected to the same wise principles that guide us elsewhere in our operative procedures?

True, it is no trifling responsibility we assume when we propose, in the very face of a commencing peritonitis, to open the cavity of the abdomen, release a strangulated bowel, divide constricting bands, or cleanse the cavity from purulent extravasations. But, in view of the exigencies of the situation and the absolute imminence of death, do we shift these responsibilities one iota when we sit supinely by, knowing full well the inevitable fatality that attends the orthodox methods of treatment? What ovariotomist is there that would hesitate a moment to remove stitches and reopen a wound in case internal bleeding or purulent accumulations demanded it? Too well does he know the fatality of temporizing. How many more valuable lives then, are yet to be sacrificed before the profession realizes the necessity of surgical interference in these desperate cases of internal abdominal traumatism?

Marion Sims ("Brit. Med. Jour.," December 17, 1881), in this very hall sounded the key-note of the future treatment of such cases when he said: "Given a case of perforation of intestine, and given an accurate diagnosis, which is by no means difficult, what are we to do in the present state of our knowledge? Why, of course, we should open the abdomen promptly, clean out the peritoneal cavity, search for the perforation, pare its edges and bring them together with sutures, and treat the case as we now treat other cases involving the peritonæum. Rest assured," he says, "that the day will come, and it is not far off, when an accurate diagnosis in such cases, followed by prompt action, will save life that must otherwise quickly ebb away."

Dr. Robert W. Johnson, chairman of the Surgical Section of the Medical and Chirurgical Faculty of Maryland, said in his Annual Report (N. Y. "Med. Record," p. 550): "The greatest triumphs of the year (1884) are in abdominal surgery, Dr. Bull's case of laparotomy suture of the intestate for gunshot wound being the greatest of them all." He then goes on to state: "The abdomen should be opened in case of perforation of intestine, hemorrhage, extravasation of fæces, and *beginning peritonitis*, just as in cases where internal strangulation has been positively diagnosticated, but only under full and complete Listerism, (1) because without operation the patient is almost sure to die; (2) the danger is far more than counterbalanced by the chances of recovery."

To familiarize myself with the technique of the operation, three times I have laparotomized dogs, resected one or more segments of intestine, suturing with catgut the divided gut, and, notwithstanding the difficulty of keeping the animals quiet, they all recovered. Twice I have subcutaneously perforated with a slendor bistoury the gut of a dog, and, after forcibly squeezing some of the intestinal contents and blood into the peritoneal cavity, have opened the animal, washed out the abdomen, sutured the perforation, and had one of the dogs recover.

The point raised by Dr. James R. Wood in the discussion on Dr. Sims's paper, to which reference has already been made—namely, that, "pathological surgery or operations done for tumors and disease were very different in their results from traumatic or acute surgery, and that this was specially true regarding manipulations of a large serous membrane that resents all impertinent interference"—does not, it seems to me, afford a sufficiently logical basis for doing or not doing the operation.

As a clinical fact, the peritonæum is exceedingly tolerant of interference, provided the proper precautions are observed.

Note the vast number of Tait's operations alone that have been done during the last three years, and the splendid results that have been obtained. Death in these cases has resulted from peritonitis but rarely. More frequently it has been from septicæmia or shock.

In order to show the tolerance of the peritonæum under operations done for the relief of acute irritations, as well as to emphasize the principle I maintain, I beg to present in evidence the following cases, purposely omitting all cases of hernia or intestinal obstruction, referring the reader to Mr. Treves's recent excellent work on the latter subject:

CASE 1. Keuster ("Verh. d. deutsch. Gesellsch für Chirurg.," viii, 1879).—Rupture of the sac of an incarcerated crural hernia with escape of fæces into the peritoneal cavity during a kelotomy. Immediate laparotomy and resection of the gut. Death from septic peritonitis.

CASE 2. Scheide ("Verh. d. deutsch. Gesellsch. für Chirurg.," 1878).—Laparotomy in a case of incarcerated umbilical hernia with gangrene of the gut. Death four days after operation.

Case 3. Schetelig ("Berl. kl. Wochenschr." xvii, 80, 607).—Knife wound of the abdominal wall in a decrepit man of sixty. Protrusion and laceration of a part of the colon. Reposition impossible at first. Enlargement of the upper part of the wound with subsequent replacement of the bowel. Recovery.

Case 4. Wittelshoefer ("Wien. med. Wochenschr.," xxxi, 81, 118).—Man brought to Bamberger's clinic with the following history: Some days before he had introduced a painter's brush into the rectum to stop a diarrhœa, but when he tried to take it out it had disappeared. On admittance, presents signs of peritonitis, and examination shows the presence of the body in the sigmoid flexure. Other means proving of no avail, he is transferred, three days after, to Billroth's clinic for operation. Patient at this time gives symptoms of severe peritonitis, and is somewhat collapsed.

OPERATION BY BILLROTH.—*Laparotomy.* Incision beginning at interior superior iliac spine and extending as far as the symphysis. Peritoneal cavity is found filled with fæcal matter, indicative of a perforation. Brush found in the ascending colon and removed by an incision 7 ctm. in length.

Toilet of peritonæum, wound of gut sutured, severe collapse after operation. Death.

Autopsy shows perforation of the peritoneal covering of the gut 25 ctm. above the anus.

Case 5. Wittelshoefer ("Wien. med. Wochenschr.," 1881, xxi, 118).—Man, aged fifty-two, brought to Bamberger's clinic, November 8, with obstinate constipation of six days' duration. On admittance, presents already signs of peritonitis, stercoraceous vomiting, etc. He is found to have a small umbilical hernia, reducible.

Transferred to Billroth's clinic November 18. At that time already in collapse. The hernia is not so easily reduced, and is somewhat painful.

Laparotomy. Incision in linea alba 18 ctm. in length. On opening the peritoneal cavity, a quantity of fœtid matter oozes out, and there are signs of a general peritonitis. Examination shows gangrene of the gut a little above the ileo-cæcal junction, and volvulus. Resection. Death in collapse five hours after operation.

Case 6. Assmuth ("St. Petersb. med. Wochenschr.," 1881, vi, 118).—Incarcerated umbilical hernia in a man aged forty-five. Symptoms of acute ileus.

Laparotomy. Omentum and gut found gangrenous and excised. Sutured. Recovery.

Case 7. Veinlechner ("Jahrb. für Kinderh.," 1881, xvii, 304).—Laparotomy in a child five years old, with intussusception after the development of acute purulent peritonitis. Resection of intussuscepted part.

Death five hours after operation from exhaustion.

Case 8. Hoffmann ("Wien. med. Presse," 1881, xxii, 114).—Man aged twenty-four brought to Bamberger with acute gastric symptoms. Diagnosis: perforating gastric ulcer. Transferred to Billroth. Laparotomy performed, and shows a perforating ulcer on upper curvature. Edges are excised and united by sutures. Death day after operation.

Autopsy shows an enormously distended stomach with thickened walls. What had been taken for an ulcer was probably a spontaneous rupture, the result of the extreme distension.

Case 9. Hagens ("Berlin. kl. Woch.," 1883, xx, 106).—Historical account of one of the oldest cases of gastrotomy, 1635.

Operation performed by Schwab on a peasant who had swallowed a knife. Incision two fingers' breadth under the free border of the ribs. Wound in stomach united by sutures; abdominal wound closed. Recovery.

Case 10. Maurer.—Perityphlitis in a man aged seventeen. Incision extending from the quadratus lumborum muscle anteriorly to the anterior iliac spine. Opens into an abscess cavity, communicating with the perforated colon. Recovery.

Case 11. Wienlechner ("Wien. med. Blat.," 1882. "Ileus in a Man Aged Fifty-two," No. 44).—Laparotomy; incision in median line. Death from peritonitis eighteen hours after. Autopsy shows perforation of appendix vermiformis and perityphlitis.

Case 12. A. Schmidt ("Wratsch.," 1881, No. 51, and "Centralbl. für Chirurg.," 1882, No. 47).—Slow purulent peritonitis in a man aged twenty-one. By aspiration, a thin purulent fluid is obtained. Laparotomy. Incision extending from the navel to the symphysis. The whole peritoneal cavity filled with pus; about five pounds. Removed. Drainage, etc. Complete recovery.

Case 13. Guessenbauer ("Wien. med. Blat.," 51, 52).—Sword-swallower, aged nineteen, during one of his performances breaks the blade in the œsophagus. The lower fragment is pushed into the stomach by the father, as the boy seems to be choking. On admittance, an examination is at once made, but fails to detect the body either in the œsophagus or stomach. Peritonitis developing, gastrotomy is performed, with extraction of the fragment, which is 27 ctm. long. As no perforation can be detected, closure of the gastric and abdominal wound.

Death. Autopsy shows septic peritonitis, wound of the œsophagus 14 ctm. above the cardia, and a perforation at the fundus of the stomach.

Case 14. Kocher ("Corresp.-Bl. f. schweiz. Aerzt," Nos. 23, 24).—Gunshot wound of the stomach, in a boy of fourteen, quickly followed by peritonitis and collapse. Laparotomy three hours after. Wound of stomach closed by catgut sutures (Lembert's); closure of abdominal wound. Recovery. Patient out of bed seventeen days after.

Case 15. Sonnenberg ("Berl. kl. Wochenschr.," 142, 1855).—Rupture of the bladder in a man aged thirty-six years. Laparotomy after the establishment of acute symptoms. Abdominal cavity is found filled with urine mixed with fibrinoserous fluid, and signs of peritonitis. The rupture is situated at the inner side of the bladder. It is found impossible either to unite the ruptured part or to sew the bladder to the abdominal wall. Drainage of abdominal cavity. Death eight days after from infiltration of urine and septicæmia.

Mikuliez ("Tageblatt d. Versamml. deutsch. Naturforsch. und Aerzte," Magdeb., 1884, 1, viii, 224).—Mikuliez performs laparotomy in all cases of injury, whether direct or indirect, to the stomach and intestines, even where peritonitis is already present. He cites the four following cases:

Case 16.—Laparotomy for rupture of the stomach in a man aged twenty-four. Perforation found in the lesser curvature, and is probably the result of extreme dilatation of the stomach. Abdominal cavity is full of fragments of partly digested food. Death three hours after operation.

Case 17.—Symptoms of obstruction and ileus following a diarrhœa (three weeks' duration) in a young man. Diagnosis: strangulation of the gut. Laparotomy is performed, and about one litre of fibrino-serous matter is removed from the abdominal cavity. Volvulus present and reduced. Recovery from operation, but death three weeks after from intercurrent pneumonia.

Case 18.—Perityphlitis followed soon after by symptoms of incarceration. Laparotomy (incision in linea alba). Two litres of fœtid purulent matter are removed from the abdominal cavity. Death five days after. Autopsy shows a perforation of the intestine.

Case 19.—Acute signs of ileus and incarceration in a young man. Laparotomy. One litre of fœtid pus and a number of pieces of undigested potato found in the abdominal cavity. A perforation is also discovered, on the left side, involving the ileum, about 6 mm. long and 4 mm. broad. No cause can be found for the perforation except that it is a typhoid ulcer in a case of typhoides ambulatoria. Edges of perforation united by sutures. Rapid recovery.

Case 20. Brugisser ("Corresp.-Bl. f, schweiz. Aerzt").—Acute signs of ileus strangulation and peritonitis in a man of seventy-four. Laparotomy; incision parallel with Poupart's ligament. Resection of strangulated bowel. Recovery.

Case 21. Lloyd ("Brit. Med. Jour.," March 24, 1883).—M. I. a domestic, aged nineteen, was admitted to Woman's Hospital late in the evening of February 23. She had been accidentally shot in the abdomen three hours previously. No shock and but little vomiting. Bullet had entered slightly to the left of the median line immediately above pubes. Finger passed readily into peritoneal cavity. Patient becomes steadily worse, and on the 26th has constant vomiting, severe abdominal pain, a temperature of 99°, and a thready pulse. Laparotomy in the evening; abdominal section at once followed by escape of a fœtid, thick, brownish fluid. The intestines are matted together. A coil of gut, hooked from the left iliac region, has in it a ragged wound three-quarters of an inch in diameter. Abdominal cavity washed out with plain lukewarm water, a glass drainage-tube inserted, and perforated gut stitched to the center of the abdominal wound. Patient never rallies, and dies in collapse one-half hour after. Autopsy shows that bullet has contused the apex of the bladder, cut through the free edge of a coil of intestine, perforated the mesentery and lies between it and the mesocolon.

Case 22.—Savage ("Brit. Med. Jour.," April 14, 1882) reports seventy cases of abdominal section performed that year. Six laparotomies during *presence of subacute peritonitis, with more or less exudation.* All the patients recovered.

Case 23. Bouilly ("Bullet. de la Soc. de Chir." 8 août).—In a man, aged twenty-nine, who has received two hoof blows in the umbilical region, Bouilly performs laparotomy twenty-three hours after the injury, as symptoms of perforation and peritonitis are present. On opening the abdominal cavity a rent 1½ ctm. long is found in the small intestine, with irregular margins. Resection of a piece of intestine 10 ctm. long. Great improvement. Fæces, however, continue to pass through the abdominal wound (a part of which has been left open). On the tenth day examination is made of the fæcal fistula, with the object of curing it, but in the evening the patient suddenly collapses, and next day dies from purulent peritonitis. Autopsy shows that sutures of intestinal wound had separated, that the separated ends had been shut off by exudation from the peritoneal cavity, and that the rupture of an adhesion was probably the cause of death.

Case 24. Albanese.—In a man, seventy-six years of age, who, four days before admission, had received a blow upon the abdomen, symptoms of acute ileus and peritonitis become developed. On the seventh day after the injury laparotomy, the incision being over the colon ascendens. A coil of strangulated intestine is found, bound by adhesions to the cæcum. These are carefully separated. Good recovery.

Case 25. Willet ("St. Bartholomew's Hosp. Reports," 1876, p. 208).—T. F., aged forty-eight, admitted with symptoms of ruptured bladder, the result of a kick over the pubes. Laparotomy in twenty-four hours after development of peritonitis (general). Incision five to six inches long, extending from the umbilicus to the pubes. On opening the abdominal cavity, several ounces of brown urinous fluid escape; a rent is found across the fundus of the bladder three inches and a half long. Edges of rent are brought together by sutures. Sudden death after a temporary improvement.

Case 26. Heath ("Royal Medico-Chirurg. Society," Feb. 25, 1879).—Rupture of bladder. Laparotomy. Rent in bladder closed by sutures. Death from peritonitis.

Case 27, Tait ("Brit. Med. Jour.,") 1878, i, p. 677).—Laparotomy for abdominal tumor, during the presence of acute peritonitis. The tumor is found to be a Fallopian tube distended with menstrual blood. Drainage, etc. Perfect recovery. Tait has done forty ovariotomies during commencing peritonitis. All the patients recovered.

Case 28. Walter ("Med. and Surg. Reporter," Philadelphia, 1862).—Rupture of the bladder in consequence of a kick on the abdominal wall. As no amelioration follows the introduction of the catheter, and as signs of peritonitis supervene, laparotomy is performed. A rent is discovered at the fundus of the bladder two inches in extent. Some extravasated urine in the abdominal cavity. Wound in bladder is not closed, as no urine is seen to escape. Abdominal wound sutured. *Recovery.* Probably the first case in which laparotomy has been resorted to for acute conditions within the abdomen.

Case 29. Chaput ("Jour. de Méd.," 1880, p. 103).—Laparotomy for perforation of the vermiform appendix by a foreign body during the presence of acute peritonitis. Abominal cavity filled with fœtid pus. Drainage. Death.

References.—Guterbock ("Arch. f. klin. Chirurg.," 1884, 419) recommends laparotomy and closure of vesical wound in all cases of rupture of the bladder. McCormac (N. Y. "Med. Rec.," p. 477, 1883) advocates laparotomy in cases of gunshot wound of the abdomen.

Case 30. Tilnig (*St. Petersburg Med. Woch., No.* 44, 1884).—Man, aged nineteen, received while at supper a knife wound four-fifths of an inch long in the epigastric region, one inch to the left of the linea alba and three inches above the umbilicus. While the wound was being sutured patient vomited large quantities of a reddish chyme, and afterward pure blood. Laparotomy. Incision six inches long in the median line. On section of peritoneum much blood escapes. The finger introduced detects a wound in the left gastro-colic ligament leading to another in the posterior wall of the stomach, through which the mucous membrane protrudes. The edges of the stomach wound are brought together by sutures. Owing to the collapsed condition of the patient, the abdominal cavity cannot be thoroughly cleaned. Abdominal wound closed by Lembert's sutures. Quick recovery.

Case 31. Taylor (*Lancet*, 1884, ii, 589).—Girl, aged fifteen, gives symptoms of acute hydronephrosis. As the symptoms increase in severity, *laparotomy* is determined on. On the morning of the operation, symptoms of collapse set in, the cystic tumor, which was before susceptible on the left side, has also disappeared, and the abdomen is very tender. As rupture of the cyst is probable, immediate laparotomy. Incision in median line. Peritoneal cavity filled with urine. As the point of rupture cannot be found, the cyst is opened at another place, and the edges of the wound are stitched to the abdominal wound. Recovery with a urinary fistula.

Case 32. "Gunshot Wound of the Intestines Treated Successfully by Laparotomy with Sutures of the Intestines," by William T. Bull, M.D.; read before the New York Surgical Society, January 27, 1885 (N. Y. Med. Jour.," Feb. 14, 1885, p. 184).—W. McE., male, twenty-two years of age, was brought to the Chambers Street Hospital on the night of November 2, 1884, suffering from a pistol-shot wound of the abdomen. Seventeen hours after the accident laparotomy was performed under strict antiseptic precautions. On opening the abdominal cavity, the intestines were found to be wounded in seven places; these were carefully washed, and the peritoneal edges were then approximated and the line of sutures carefully rubbed with iodoform. The bullet was detected at once lodged in the upper surface of the sigmoid flexure. Operation lasted two hours. Abdominal wound closed with deep silk sutures, and dressed with an iodoform and borated-cotton dressing.

Six hours after operation cold-water coil applied. After the eighth day convalescence was uninterrupted save for a few sinuses in the line of incision, and at the end of eight weeks the large wound was cicatrized. The functions of the alimentary canal were performed normally, and he was apparently in good health.

Case 33.—Frederick Treves, F. R. C. S., in a paper read before the Royal Medical and Surgical Society of London, on the "Treatment of Peritonitis by Abdominal Section," reports a case in which a large pelvic abscess had burst into the peritoneal cavity, followed by acute peritonitis. Laparotomy under strict antiseptic precautions. Peritonæum showed appearances of acute peritonitis. The whole cavity washed out and a drainage-tube introduced. Patient made a good recovery,

Case 34.—Mr. Howard Marsh, at same meeting, read the history of a case, the patient being a medical student who was attacked with symptoms of sudden and acute peritonitis. Laparotomy; about two pints of fœtid pus evacuated. Whole cavity washed with sol. acid. carbol., one to sixty, and a drainage-tube introduced. Recovery.

In the discussion which followed the reading of Treves's paper, Bryant, Thornton, Powell, Barwell, Goodhart, and Meredith were in perfect accord in commending the practice carried out in the two cases noted.

Case 35.—Omental abscess, rupture into peritoneal cavity. Laparotomy. Recovery. T. H. Burchard.

On August 20, 1883, I was requested by Dr. Frederick D. Lente to see Ephraim Wells, aged twenty-five, a colored waiter, employed in one of the smaller hotels in Saratoga. For some three weeks Wells had been confined to bed suffering from a severe cellulitis of the abdominal walls. Several superficial abcesses had formed, which had been located by Dr. Lente.

He had suffered intense abdominal pain, temperature fluctuating from 101.6° to 104.5°, and was rapidly emaciating. For six or seven days prior to the present complication his abdomen had become tympanitic and the pain more diffused. For forty-eight hours there had been excessive hiccough and frequent retching of green mucus. On the night of August 19 he took surreptitiously four compound cathartic pills. At seven o'clock on the morning of the 20th Dr. Lente was summoned, and an hour later I saw him.

He was lying with his legs flexed, abdomen moderately distended, and breathing thirty-two times a minute; his pulse was 120 and his temperature 102.2°.

Examination showed an indurated condition of the tissues of the hypogastric and left hypochondriac regions, the integument being somewhat erysipelatous in appearance. The indurated mass appeared to involve the entire thickness of the abdominal wall, and was about six by seven inches in diameter. Both Dr.

Lente and myself thought we detected deep-seated fluctuation, and although a Luer's aspirating needle failed to give pus, at Dr. Lente's request I proceeded to evacuate the abcess. Dr. William Curtis, of Philadelphia, gave ether.

My incision was made in the median line (deep-seated fluctuation appearing more distinct there, although the principal part of the induration was slightly to the left), and extended from an inch below the ensiform cartilage downward to the umbilicus.

Just as I reached the linea alba, at a depth of fully two inches and a half, something was felt to suddenly give way beneath the hand, as though an abscess had burst within the peritoneal cavity. Although it was thought the patient would certainly die, it was determined that what little chance he had depended upon giving vent to the pus anteriorly. The incision was extended through the linea alba and into the great omentum, which was adherent to the abdominal wall and the seat of the abscess.

Omentum, intestines, and mesentery were matted together in one inseparable mass, and pus of an extremely fœtid odor welled from the cavity of the belly. I should say fully a quart escaped.

The patient grew rapidly weaker. Inhalations of ammonia and amyl and hypodermics of whiskey were freely used. Warm milk-punch was injected *per rectum.*

The patient rallying, the incision was prolonged below the umbilicus, so as to get below the abcess, and so thoroughly wash out the abdominal cavity.

Fully a gallon of warm carbolized water (3 per cent.) was thrown gently in among the matted coils of intestine. The wall of the abscess cavity were sparingly dusted with iodoform, and two rubber drainage tubes were inserted. The upper and lower ends of the incision were sutured with silver wire; the median portion above the umbilicus was purposely left open to permit of free drainage.

A pad of oakum, wrung out in sol. hydrarg. bichlor., 1 to 1,000, was placed over the entire wound, and a light bandage applied.

The patient rallied poorly from the operation. Hiccough and vomiting continued the entire afternoon, the pulse most of the time being scarcely perceptible. 2 P. M., pulse 140, temperature 103.4°, respiration 26; 5 P. M., pulse 136, temperature 104.6°, respiration 30.

Cracked ice and small portions of champagne frappé were given by the mouth, and enemas of beef peptonoids and milk-punch were given each four hours. Morphine, atropine, and digitalis were given hypodermically, p. r. n; Ice-coil on abdomen.

August 22d.—5 A. M., pulse 130, respiration 28, temperature 100·6°, Sleeping quietly. Has had during the past twenty-four hours morphine 2 1-5 gr., atropine ¼ gr., tinct. digitalis M xl. 4 P. M., pulse 124, respiration 17, temperature 101.4°. Wound discharging freely. No hiccough or vomiting.

23*d.*—8:30 A. M., pulse 118, respiration 24, temperature 100.2°. Comfortable night. 3:30 P. M., pulse 116, respiration 26, temperature 100.4°. Morphine 1¼ gr. in twenty-four hours. Takes peptonized milk and iced champagne.

24th.—Vomited once during the night. General condition excellent. Wound discharging comparatively little. 9:45 A. M., pulse 115, respiration 22, temperature 99.8°;

26th.—Improving in every respect. Abdominal induration disappearing. Removed one drainage-tube and one stitch. Ordered a tonic—iron, quinine, and strychnine.

29th.—Removed all stitches. Incision about one-half inch long. Removed rubber tube, and inserted one of decalcified bone.

September 2.—Patient convalescing rapidly. Leaving Saratoga to-day. Dr. Lente took entire charge of the case. A few days after, Dr. Lente returned to Cold Spring, and I never saw him again alive. I learned, however, that Wells left Saratoga about the last of September in excellent condition. Most diligent inquiry has failed to find his whereabouts since.

Now, if these forty cases, with twenty-four recoveries, teach anything, they teach not merely the feasibility of such operations, but, more than that, they give us legitimate ground for encouragement in fully sixty per cent. of these otherwise hopeless cases.

In contrast with the foregoing, permit me to give very briefly the history of my sixth case of perforation of the appendix vermiformis, and, for personal reasons, I desire to omit all names and dates:

I was requested by Dr. —— to see Miss —— in consultation. She was twenty-two years of age, and generally had enjoyed good health. Three months before she had had an attack of perityphlitis, which had lasted about three weeks. A small mass of induration, of about the size of a billiard-ball, was still left. She had had another attack sixteen months before.

On the evening prior to the present attack she had been at a party, danced excessively, got overheated, drank considerably of cooling beverages, and in going home and after she retired had chilly sensations. On awakening about 8 A. M., feeling "uncomfortable in her old spot," she took a large saline. This was followed by two copious movements. During the second she experienced a sudden sharp, darting pain in her right side, and immediately fainted. I saw her about noon. She was then in excellent condition—pulse 108, temperature 100°, abdomen moderately distended; some hiccough and nausea. Pressure over the tumor produced sharp pains. Stethoscopic examination over the cæcum gave distinct fremitus and crepitation. I diagnosticated unhesitatingly perforation of the bowels, and urged an immediate operation. My advice was not accepted. At nine the following morning I was summoned hastily, and to "be prepared to operate." The condition of things had now entirely changed. The patient was semi-moribund. Abdomen enormously tympanitic. Pulse 140, and intermittent. Naturally, an operation at this period would have been worse than useless. The patient died two hours later, or twenty-seven hours from the commencement of the attack. It was with melancholy interest that I saw the autopsy reveal a minute perforation at the base of the appendix not three lines in diameter. The appendix was bound down by old adhesions. There was the faintest exudation of lymph immediately around the perforation.

Austin Flint, in his last edition, in speaking of septic peritonitis (Flint's "Practice," p. 590), says: "The time may come when paracentesis abdominalis will have been proved to be applicable to certain cases of peritonitis, as are thoracentesis, injections into the pleural cavity, and a permanent opening in the chest in cases of suppurative pleurisy." In the light of these cases, I submit, Has that time not already come?

Regarding the medical treatment of peritonitis, there are some points of special interest worth considering, and, first, as to the opium treatment. Opium is our sheet-anchor in the treatment of peritonitis, and yet, indispensable as the drug is, there are certain conditions which arise in the course of the disease in which the drug can only be used with the greatest caution. The indiscriminate use of opium, even in peritonitis, is quite capable of doing more harm than good.

The symptoms of peritonitis vary with the extent, severity, and the causes which produce it. When the disease develops gradually, as from a pre-existing visceral inflammation, for some time there may be little or no constitutional disturbance. When it develops suddenly, however, and particularly if from *internal traumatism*, as hernia, perforation, or other intestinal injury, this condition of *shock* enters as a very important element in the development of symptoms, and the treatment must be varied accordingly.

The initial collapse of peritonitis is a subject upon which too little has been said, and yet its treatment is of most signal importance. I have seen it persist for hours after well-pronounced peritonitis had developed, as evidenced by increasing meteorism, increasing abdominal tenderness, and a rising temperature, and yet the while the patient lying listless or semi-conscious, with limbs extended, with features pinched and shrunken, and a pulse scarcely perceptible.

A most remarkable case of this kind occurred in my practice a few years since. A young gentleman, John H., aged about twenty-six or twenty-seven, came to my office one morning complaining of a left epididymitis. As the inflammation was of unusual severity, I sent my assistant, Dr. L. D. Woodbridge, to his home to apply half a dozen leeches over the cord in the left inguinal region. About midnight I was summoned to see him, as he was suffering severely.

Dr. Woodbridge responded to the call, and found his pain was less, but that he was rapidly sinking into a condition of collapse. At 2 A. M. Dr. Woodbridge wrote that "Mr. H. was evidently dying." I went at once, and found my patient unconscious and almost pulseless. His respirations were very shallow, and at times would stop altogether. His pupils were widely dilated and irresponsive. Superficies of the body pale and cold. Rectal temperature

96°. Abdomen greatly distended, and pressure on it would cause a reflex regurgitant movement in the throat and an expression of pain. During the early afternoon his temperature rose to 102.6° and he became deeply cyanotic.

Dr. Loomis saw him at 2 P. M., confirmed the diagnosic of peritonitis, and said the patient, being then comparatively pulseless, would certainly die. At 5 P. M., after fifteen hours' constant labor, keeping up artificial respiration all the while and feeling that he could survive but a very few minutes, Dr. Woodbridge and I left the house.

At 6:30 P. M. we were recalled, to find him slowly regaining consciousness. He subsequently fully rallied, passed through an unusually severe peritonitis, and is now well.

In speaking of treatment, the text-books generally recommend, "as soon as the unmistakable symptoms of peritonitis are developed, administer at one dose from two to five grains of opium, or from one half to one grain of morphine."

And yet physiological experimentation has proved that collapse, such as existed in this case, is dependent upon vaso-motor paresis, and the deeper the involvement of the sympathetic the more profound the collapse.

Now, this is a condition of the system in which opium, even in moderate doses, is poorly borne. Infinitesimal doses of morphine in conjunction with atropine, by mitigating pain and securing nervous tranquility, undoubtedly exert a favorable tonic influence upon the heart. Large doses increase the paralysis of the cardiac inhibitory centre and still further cripple that organ.

This is no visionary condition of affairs, for I have more than once seen a heart feebly endeavoring to rally from the shock of a commencing peritonitis well-nigh overwhelmed by a dose of morphine that the text-books would justify, and one which a few hours later would be insignificant.

Another and very important fact to be noticed in the commencement of peritonitis, and governing greatly the freedom with which opium may be used, is the perplexing discrepancy that ofttimes exists between the severity of the pain and the apparent hard, tense, wiry pulse on the one hand, and, on the other, the very great heart-feebleness.

Under such circumstances, every dose of opium given, unless guarded by atropine or digitalis, jeopardizes the heart, and no dose should be administered under such circumstances without previous careful cardiac auscultation.

There is another condition, developing later in the history of the disease, in which the administration of morphine in large doses is equally prejudicial, and upon which condition current literature is likewise, unfortunately, silent.

I refer to the hypostatic pneumonia which, owing partly to the patient's asthenic condition and partly to pressure on the lungs from excessive tympanites, is so apt to develop at that time.

Here, too, we have an important inhibitory centre, the respiratory, paralyzed from carbonic-acid-gas poisoning. In addition, we have lungs badly compressed, with blood imperfectly aërated sluggishly flowing through them;

portions of the pulmonary structure are consolidated, either from simple stagnation of the blood or from lobular inflammation.

At this stage a slight overdose of morphine might arrest the respiratory act entirely. Yet I have seen its use persisted in under these very conditions.

When the disease has reached this point and cyanosis begins to develop, I believe little is gained from pressing opium, and it is wise to suspend its administration except at frequent intervals, giving it only to meet some special indication, and guarding it carefully with digitalis, atropine, or ammonia. At this period stimulating hypodermics should be freely resorted to; dry cups to the lungs are of signal benefit, and inhalations of oxygen often tide us over an ugly complication.

In a case of peritonitis under my charge last winter—that of a young lady of twenty, in the third week of typhoid—my assistant, Dr. Henry A. Mandeville, and myself fought day and night for nearly a week a temperature which fluctuated from 103° to 106.6°, until at last she went into unconsciousness from respiratory failure and carbonic-acid poisoning. Although the cyanosis involved the entire body, and she had been practically pulseless and unconscious for eighteen hours, nevertheless, under the atropine and other stimulants that were injected, and the oxygen inhalations that were given, she rallied and regained consciousness.

Regarding the use of opium, *freedom from pain* is the ideal condition to be secured, irrespective of the quantity of the drug administered. When this is attained, sleep from which a patient can be readily aroused follows as a natural consequence. Opium, or its alkaloid, morphine, should be administered. Personally, I prefer the hypodermic injection of morphine, not alone from the simplicity and certainty of its administration, but, what is of more consequence, the absolute knowledge it gives us of the exact quantity of the drug our patient is receiving. Given by the mouth, how much is absorbed and how much lies dormant in the stomach is purely a matter of conjecture.

Several years since, a patient of mine, convalescing from peritonitis, passed a curious mass at stool several days after the discontinuance of the drug. Upon examination, this proved to be a collection of opium pills that had been prepared at one of the most reliable pharmacies in the city.

I am confident that had this amount of opium been absorbed, it would have killed my patient, in which event the death would naturally have been attributed to the peritonitis.

Objections have been raised against the combination of atropine with morphine, it being alleged that the physiological antagonism that naturally exists between these two drugs, tends to render the development of symptoms irregular, and their interpretation more perplexing and obscure.

Undoubtedly atropine does produce a marked change in the patient's appearance, and certain very characteristic changes in the phenomena of the disease; but these changes, we believe, are in every way favorable to the patient.

There is no one drug in the treatment of collapse—whatever be its cause, whether traumatic or from disease—in which more implicit confidence can be placed than in atropine. Owing to its stimulating action, the heart gains strength, the respiratory act deepens, and the phenomena of shock yield in a surprising manner to those of traction. In the later stages of peritonitis, especially when the heart and lungs fail, and when gastric regurgitations and hiccough are rapidly exhausting the patient's vitality, I have obtained results that were simply marvellous from the administration of one or more hypodermics of atropine, varying in strength from one-sixtieth to one-tenth of a grain each, and given either alone or in combination with morphine, digitalin, ammonia, or alcohol, according to the special indications existing.

The contrast in the appearance of two patients—one being treated with atropine in combination with morphine, and the other with morphine alone—is most marked, while in moments of special exigency the value of this drug is inestimable.

The amount of morphine that should be administered varies, naturally, with the patient's susceptibility, the severity of the disease, and the amount of pain.

Each patient, in these particulars, is a law to himself, and no rule could be formulated that, in a general way even, would apply to individual cases. The remarkable tolerance of morphine in peritonitis is too well known to require more than a passing mention, and yet, since adopting the hypodermic method, I have been surprised to see how little was generally required, as compared with the immense doses formerly given by the mouth.

After being brought to a condition of partial narcosis, there have been comparatively few cases, except those of a septicæmic nature, that have required more than two grains of morphine a day; although in one case attended by Dr. Loomis and myself, after giving three doses of two grains each, hypodermically, an hour apart, I gave one grain, hypodermically, each hour for twenty-seven consecutive hours without entirely controlling the pain or materially reducing the frequency of the respirations, which varied from twenty-five to thirty a minute. The patient recovered, having received during the first five days of her sickness sixty-three grains of morphine hypodermically.

External Applications.—Much has been said of the efficacy of external applications—used either hot or cold.

Poultices are still used by many. Until within the last two years I employed them exclusively. Upon what therapeutic principle their use was based, I did not know then. I do not know now. Under three conditions only can I conceive of any physiological reason for their employment: First, in the commencement of a peritonitis, by their sedative effect upon peripheral nerves, they may assist in lulling pain; secondly, during the passage of urinary or biliary calculi, or in intestinal colic, they may assist in relaxing spasm; and, lastly, during the stage of decline they may hasten the absorption of inflammatory products. For these reasons a poultice is indicated; otherwise they neither control inflammation, reduce temperature, nor lessen tympanites, all of which is done, and with perfect comfort to the patient (provided the temperature of the water is reduced gradually), by the employment of the ice-coil.

If experimental physiology has taught us anything, it is that cold applied to peripheral sensory nerves controls the afflux of blood to those parts supplied by the vaso-motor nerves that inosculate with such sensory branches.

The sympathetics distributed to the intestines and peritonæum arise from the solar plexus, the sensory filaments being the lumbar nerves which supply the wall of the abdomen. Ice applied to the abdomen constricts the blood-vessels of the intestines and peritonæum, and it is in the reflex contraction of these blood-vessels that the benefit resulting from the application of cold to the abdomen finds its physiological explanation. Poultices are not curative. Cold, judiciously employed, lowers the temperature, reduces inflammation, relieves tympanites, and secures nervous tranquility. There is but one way of employing cold, and that is by the ice-coil. This can be readily extemporized from either lead or rubber tubing.

For diet nothing is comparable with peptonized milk, to which additional cream may be added if desired. Valentine's beef-juice, beef-peptonoids, and Luebe's meat solution furnish valuable nitrogenized preparations.

For the relief of tympanites much depends upon whether the gas is within the cavity of the peritonæum or in the intestines. If the former, a fine aspirating needle may be introduced, and with immediate relief. If the latter, a long tube may be passed up the bowel and an ounce or more of some warm aromatic solution injected. Gas must not be expected to escape through a tube occluded with fæces.

Large fæcal masses not infrequently prevent the escape of flatus by blocking up the rectum. Under such circumstances a large enema of flaxseed tea, in which some ox-gall has been dissolved, may be injected with benefit. A patient of mine, who was once rapidly succumbing to increasing tympanites, was saved by this simple procedure.

Pneumatic aspiration of the intestine I regard as neither surgical nor safe.

As in the case Professor Polk reported at the Obstetrical Society, I have seen gangrenous inflammation with fæcal extravasation follow the puncture.

Turpentine stupes I resort to more out of respect to tradition than because of any positive benefit I have ever seen follow their use in general peritonitis.

When turpentine is pushed to any considerable extent, I fear damage to the kidneys.

I have seen both strangury and hæmaturia follow its external application. in two cases I have noticed a marked increase of albumen in the urine following its employment. A discontinuance of the stupes caused a total disappearance of the albumen in one case, and a considerable reduction in the other.

Independent of the fact that Bright's disease is of itself a frequent cause of peritonitis (Habershon's statistics give 63 cases of Bright's disease as the exciting cause of 301 cases of peritonitis [*Medical Times and Gazette,* December 13, 1859]), the anatomical position of the kidneys renders them prone to take on inflammation whenever the peritonæum is inflamed. Hence I have often questioned if a powerful irritant to the kidneys—as turpentine—does not sometimes add additional irritations to these organs.

Daily and frequent urinary examinations should be made, for more than once has the timely application of cups and a digitalis poultice over the kidneys saved for me the life of a patient who was insidiously developing a nephritis which, without such examinations, would never have been suspected.

Last, but by no means least, the successful treatment of peritonitis demands a personal devotion and attention involving complete abnegation of self.—*New York Medical Journal.*

ROTHELN. By GEORGE BYRD HARRISON, M.D., Washington, D. C.

I have chosen this interesting disease as the subject of a very brief paper, because our city has recently been visited by it in epidemic form; and it is probable that each one of our number has seen sundry cases.

My first acquaintance with it, in my own individual practice, occurred during the spring of 1882, when several children came under treatment at the Washington City Orphan Asylum. With one exception, they were mildly affected; indeed, to a degree absolutely trivial. All presented a rubeloid type, as regards appearance of rash, injection of the eyes, etc.

I contracted the disease myself at that time, and can testify that, whether of favorable prognosis or not, no one need desire a direct personal acquaintance with it.

While convalescing I prepared a hasty article for the *Virginia Med. Monthly*, describing my observations and personal experiences; I compared them with those of some of the writers who had taken note of the subject previous to that time.

My chief object was to elicit from the profession further information in reference to the nature of the disease.

One gentleman, from the South sent me a monograph which he had printed some time before; but it did not take hold of the, to me, most interesting features of the wayward exanthem at all.

So far as I know, the questions propounded in my article are unanswered to-day; and to judge from the definition of the disease given in Dr. Loomis's late volume of "Practical Medicine," that author is still uncertain in regard to its nature, for he says, "I am disposed to regard it as a *different type of measles* (italics my own) from that which ordinarily prevails, and by way of distinction would call it German Measles or epidemic Roseola."

This is the very language used by him in 1877, and certainly does not commit him to any very definite declaration of its specific contagious character.

Dr. Hatfield, of Chicago, reported in the *Archives of Pediatrics* for October, 1884, one hundred and ten cases (which he calls "Rötheln Measles") as having occurred in the Protestant Orphan Asylum of that city.

Of these, nine (9) proved fatal, and a large number were most seriously complicated with various conditions, such as fibrinous laryngitis; capillary bronchitis, broncho-pneumonia, Bright's disease, and every variety of stomatitis, etc., etc.

One is really doubtful, however, after carefully reading his account, whether the poisons of scarlatina, measles, and rötheln were not *all* working together, aided by the ochlethic influence, to bring about the results detailed.

In some of his cases, desquamation was not only very marked, but of the scarlatinal sort; and he states that that disease had a foothold in the institution before the first case of rötheln was recognized.

Dr. Boardman Reed, of Philadelphia, has reported one case of slight albuminuria and dropsy; but none of his patients died, or were, indeed, very dangerously ill.

All the cases of which I have any personal knowledge, either during this current epidemic or the one referred to in the aforesaid article, have resembled *measles.*

Yet many authors have described a somewhat similar disease, and called it by the same name, in which the type came nearer to scarlatina.

Indeed I have known of children, affected with a disease neither measles nor scarlatina (according to the judgment of the able physicians in attendance), in which albuminuria and hyperpyexia were pronounced symptoms (in Virginia in 1879).

It is very curious that Philadelphia writers persist in styling rötheln eruptions as "macula, not papula," and mention the resemblance of their cases to scarlatina rather than measles.

Now, my object in presenting the matter to you to-night is to enquire:

1st. Whether any member of this society has met with a case of any other than the rubeoloid type; i. e., with a case which did not present more features of resemblance to measles than to scarlet fever?

2d. Whether he has ever encountered one (uncomplicated with other disease) in which the symptoms were alarming or serious in their consequences?

3d. Upon what features of the case he relies in making a differential diagnosis, as between this disease (as an affection *sui generis*) and a *second* attack of *measles* or *scarlet fever*, as the case may be?

4th. Whether he regards enlargement, induration, and tenderness of the sub-occipital gland as *pathognomonic* or merely *characteristic?*

(No medical man would be likely to confound the ephemeral changes in these glands here referred to, associated as they are with an itchy rash, with those which are incident to constitutional diseases.)

5th and finally, Whether he considers the disease as a hybrid affection, related to either measles or scarlatina, or both; or, as an independent contagious or infectious disease, due to its own special poison, or to two special poisons; and, if the latter, whether an attack of the scarlatinoid type protects from one of the rubeloid form and *vice versa?*

My own firm conviction, at this writing, is that the affection is strictly *sui* *generis ;* neither measles nor scarlatina, nor in any way connected with either. The mere fact that during the last winter (i. e., a twelvemonth since) we were visited by measles to an overwhelming extent, and that now we recognize an epidemic of rubeoloid rötheln (numbering among its victims some children who were attacked by measles a year ago), would seem to lead us away from such an idea.

Whether the disease be dual or single I am unable to decide, of course; having, as said before, seen but one type, the rubeoloid.

The enlarged, indurated, and sensitive sub-occipital glands I *do* regard as pathognomonic, and do not hesitate to inform my patients accordingly.

That the disease may assume a formidable type, under some circumstances, I do not at all doubt.

That in all cases, mild or serious, we should keep the patient in-doors, sometimes in bed, I feel very certain; and that the confinement should last until there is absolutely no appearance of eruption, and the temperature is normal.

In such cases as present much conjunctivitis and epiphora, the eyes should be protected from strong light.

My own individual case taught me that there is danger in this direction.

The incubative period is, I think, about twelve days. When prodromes are distinct they may last two days, and present quite distressing features.

Intense backache has occurred in two of my recent cases, occurring during the development of the eruption. This symptom, so far as I am informed, was first described by Dr. John H. Gilman, of Lowell, Mass. (*Boston Med. and Surg. Journal,* March, 1882), as "occurring in a small proportion of cases of rötheln," cough, sneezing, sore throat (i. e., injections of fauces, soft palate, and uvula); conjunctivitis and epiphora, etc., are symptoms some or all of which have been present in a proportion of my cases; absent entirely in others.

The rash has presented, quite uniformly, a rosy appearance, markedly different from that of measles. Its arrangement, however, papular character, with *occasional confluence on the face,* and order of appearance have closely resembled that disease.

In some cases the features have been as turgescent as in measles.

Desquamation I do not remember to have detected, except in one instance. In my own case I looked for it carefully with a lens.

Temperature has rarely exceeded 101.5° when the patient was first seen.

Itching and smarting (or "burning") have been quite constant symptoms.

In some cases there has been constipation; in a few, mild diarrhœa.

As before intimated, the post-cervical glands have been nearly always enlarged, indurated, and tender. When only one has been affected, the left has probably had precedence.

As respects activity, the *contagium vivum* of rötheln has appeared to me more like that of scarlatina than of rubeola.

It seems less likely to pervade a household than measles, perhaps less than scarlatina.

But my desire is to have these observations enlightened by those of others.*
—*American Journal of Obstetrics.*

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RESUME OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

PROSTATECTOMY (MERCIER'S OPERATION) FOR COMPLETE OBSTRUCTION TO MICTURITION; RELIEF OF ALL SYMPTOMS.—F. Swinford Edwards, F.R.C.S. (*Lancet*, July 11, 1885), having mentioned that the operation introduced by Mercier, of Paris, and practiced largely by him, and more recently by Gouley, of New York, of punching out a piece of the obstructing portion of the prostate by means of an instrument introduced through the whole length of the urethra, has not been before performed in England, so far as he has been able to ascertain, reports the following case:

J. B., aged fifty-three, had no particular trouble with his urinary organs until six months ago, when, on rising one morning, after getting wet through the previous night, he found he was unable to micturate. The urine was drawn off the same evening by a medical man. Soon afterwards he attended at St. Thomas's Hospital, where an enlarged prostate was diagnosed by one of the surgeons, and for its relief steel sounds were passed twice a week. This treatment was continued for three months, when he was discharged, being told that no more could be done for him beyond advising him to pass a catheter night and morning, which he continued to do for some time. When he came under my care his symptoms were as follows: He said that he could not micturate naturally, excepting on straining at stool. He was obliged to draw off his urine by means of a catheter six times in the twenty-four hours, having to get up at night three times for this purpose. As the patient had not micturated for some hours before coming to me, I asked him to endeavor to do so, but, finding that he was quite unable, I passed a catheter, and drew off about half a pint. I then explored the vesico-prostatic region by means of a short-beaked steel sound, which, on passing through the vesical neck, was deflected to one side, pointing probably to an enlargement of the third lobe. On examination per rectum the prostate was found to be generally somewhat hypertrophied. As the patient's inability to micturate evidently depended upon an obstruction at the neck of the bladder, probably prostatic, and for which the treatment by steel sounds had proved ineffectual, I determined to excise this by means of some instrument after the pattern of Mercier's exciseur, or, failing this, to do an external urethrotomy, and so attack the obstruction from the perineum. On paying Messrs. Mayer and Meltzer a visit with the object of finding an instrument to answer my purpose, I came across Gouley's prostatome, a modification of Mercier's exciseur, made by them, and which seemed to me to be just what was needed. Accordingly, the patient having been admitted into the West London Hospital, he was placed under ether on May 22, and I passed the prostatome, and without any difficulty succeeded in punching out a piece of the gland equal in size, I should think, to a couple of peas. Not being content with this, I repeated the procedure, but did not this time bring away quite so much tissue. There was very little bleeding, and the operation could not have lasted more than ten minutes. Two days after the operation the patient could pass urine naturally, being the first time for more than six months. There was no rise of temperature. The urine contained a little blood, for the first two or three days. The man left the hospital within a week. Since then I have seen the patient twice. On May 28 he urinated in a good stream and with force. I passed a catheter afterwards to ascertain if he emptied his bladder, and found one ounce of residual urine; but this was clear and was ejected forcibly. A few days afterwards he told me that he was now able to micturate better than he could before he was taken ill with retention. Some slight soreness in the urethra was still present. He promised to pay me a visit at once if he had any further trouble; but as yet he has not returned.

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* It is very unfortunate that the Germans call this affection "Rubeola," and measles "Morbilli," which conflicts with our nomenclature.

Mr. Edwards then goes on to say: For cases of impeded micturition, due to obstruction at the neck of the bladder, whether prostatic or valvular, there are three operations before the profession which alike aim at a cure—viz: 1. Excision through a perineal incision. 2. Thermo-electric prostatotomy. 2. Mercier's operation, or prostatectomy. As to the first, which is recommended by Sir Henry Thompson*, it has certainly the advantage of enabling the surgeon to make a digital examination of the part; but may not this advantage be outweighed by the extra risk of the operation? One must not forget that these perineal wounds in elderly men are often slow to heal, so preventing a man earning his daily bread by returning to his usual occupation; sometimes, even, they remain patent till death carries off the patient. Concerning the second, from what I have been able to learn, I do not think it compares favorably with prostatectomy. There is an account of a case recently operated upon by Professor Bottini, of Pavia,† which was followed by vesical tenesmus, for which belladonna suppositories were used. For three weeks the catheter had to be employed regularly. Sloughs came away in the urine up to the twenty-fourth day, and the act of micturition was not normally performed until three months after the operation. Mercier's operation, or, as Gouley calls it, prostatectomy, has been recommended in advanced cases of prostatic disease, where catheterism is difficult and becoming more frequent; but should an extended experience confirm the good result obtained in the case just narrated, I would recommend it earlier in the course of the disease, i.e., before the patient has to take to the habitual use of the catheter, with all its inconvenience and attendant risks. To those who may be interested in the question, I would mention that an interesting correspondence exists in the *Lancet*, vols. i and ii., 1880, which took place between Messrs. Teevan, Buckston Browne, and Gouley.

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*The Diseases of the Prostate, fifth edition, cap. xviii.

†Gazetta degli Ospitali, Feb. 11, 1855.

A Case of Traumatic Aneurism of the Axillary Artery; Ligation of the Subclavian; Subsequent Incision of the Sac, Followed by Recovery; With Remarks.*

Dr. L. McMurtry, of Danville, Ky., reports in the *Journal of the American Medical Association* the following case:

On the 20th day of last November, M. C., a robust man, accustomed to outdoor life on a farm, called at my office for examination and advice. His age was thirty years. He possessed a good constitution and powerful muscular development. He gave the following history: Thirteen months before, he received a pistol wound, the ball, entering the right shoulder in front, imbedded itself in the vicinity of the joint. The wound healed promptly, with but little constitutional disturbance. Several weeks afterward he observed "a lump" in the axillary region, which increased in size from week to week. At the date indicated—20th of November last, thirteen months after receiving the pistol wound—the tumor had reached the dimensions of a newly born child's head. The pressure upon the brachial plexus of nerves had paralyzed the arm, forearm, and hand, so that this member hung powerless at the side, possessed of a very limited degree of motion, and much wasted by disuse. The diagnosis, aneurism of the axillary artery, was evident on inspection, and was made absolute by the thrill under palpation, and the bruit upon auscultation. That it owed its origin to a wound of the axillary artery was evident from the history, and the scar of the pistol wound on the skin. A thorough examination showed that the tumor had burrowed beneath the pectoral muscles after occupying the entire axilla. The walls were thin, and moved to and fro with every pulsation of the heart. The radial pulse was small in volume, and fluctuating.

On the following day but one, I proceeded to ligate the subclavian in the third part of its course. The incision was made above the clavicle, and a dissection made through the supra-clavicular triangle of the neck to the first rib. It became necessary to divide the external jugular vein, after tying it. Some difficulty was experienced in finding the artery in its home on the first rib, the vessel having been drawn from its groove by the ever-increasing axillary growth. The aneurism needle was passed, and a strong silk ligature applied to the vessel just at the external border of the anterior scalenus muscle. The pulsation ceased in the tumor as soon as the vessel was compressed. The wound was closed in the usual manner, and the ends of the ligature were left hanging from the wound. The radial pulse was annihilated; neither was any pulsation detected along the course of the brachial. The arm was enveloped from shoulder to fingers in cotton-wool, and a flannel bandage applied.

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* Read before the Kentucky State Medical Society, June 24, 1885.

The progress of the patient was uninterrupted by either accident or complication. A few hours after the operation the hand and arm became prematurely warm, as a result of the increased activity of the superficial capillary circulation. On December 13, the twenty-first day after the operation, the ligature came away, the wound having promptly healed. The tumor became firm after the operation, and at the time the patient returned home—one month after the operation—was very perceptibly decreased in size. Six months after the operation on the subclavian, the patient returned to me for further treatment. The tumor remained large and elastic, and though he had in limited degree regained the use of his arm and hand, he was unable to pursue his occupation. I at once decided to incise the sac and turn out its contents. The circulation in the arm and hand was excellent, and a small radial pulse could be detected in the affected arm. There was no pulsation whatever in the tumor from the moment the ligature was applied to the subclavian. The pressure on the brachial plexus of nerves was the sole cause of the remaining trouble. The second operation was done at the patient's home in Mt. Vernon, Ky. Having made an incision over the entire length of the tumor, I threw a ligature around the axillary artery on the distal side of the tumor, and incised the tumor. The cavity was filled with a soft arterial clot, which was scooped out, and the cavity washed out. During this second operation I was enabled to appreciate for the first time the full extent of the tumor. It penetrated the entire depth and extent of the axilla, and had burrowed freely beneath the pectoral muscles. This wound was closed and dressed in the usual manner, with free drainage space. The pressure now being removed from the brachial plexus, the arm and hand are rapidly regaining their power, and the patient will soon resume his occupation. In the second operation it was evident that the vessel was completely closed by the first operation, and the tumor received no collateral or recurrent supply from any source. The artery above and below the tumor had become a fibrous cord.

The operation of ligation of the subclavian, he continues, varies much in difficulty. When the patient is thin and the parts adjacent are normal, the operation is as easily executed as upon the cadaver. When, however, the clavicle is greatly curved, as in persons accustomed to manual labor, and the patient stout and muscular, it is quite different. In these later circumstances the artery lies at the bottom of a deep cavity, constantly filled with blood from the many small vessels of necessity divided in the dissection. A very limited experience with the operation will suffice to convince one that such an operation must require time, and may easily terminate in disaster on the table. So skilful an operator as Dupuytren occupied one hour and forty minutes in the operation, and, in one case, found at the autopsy that the needle had been thrust through the artery and included one of the large nerves of the brachial plexus with one-half the artery. And again, in a case of Dr. Warren, of

Boston, the air rushing into the chest during the operation demonstrated that the pleura was punctured.

The anatomical conditions surrounding the seat of operations will serve to explain the frightful mortality after ligature of the subclavian for axillary aneurism, and the frequent failure to secure complete cure. Although embodying the principles of the Hunterian operation, it is not far removed from Anel's method. Indeed, when, as in the case reported, the aneurism extends above the acromial thoracic branch, the circulation through the sac is completely arrested. Dr. Wyeth's tables embrace seventy-five cases in which the subclavian was tied in the third part of its course for axillary aneurism, with a death-rate of 37 per cent. Mr. Bryant records 21 cases, of which 9 recovered and twelve died. Of 48 cases occurring during our late civil war, 37 resulted fatally, a mortality of 77 per cent. It need scarcely be stated that secondary hemorrhage is a conspicuous cause of death, and it is important to note that these statistics, showing such severe mortality, include both idiopathic and traumatic aneurisms.

A CASE OF DIABETES MELLITUS CURED BY REMOVAL OF THE UTERINE APPENDAGES—Dr. Francis Imlach reports the following case in the *British Medical Journal:* K. G. a widow, aged thirty-one, consulted me on February 12, 1885, on account of leucorrhæa and pelvic pain. A diagnosis of pyosalpinx was made out; and, as she seemed ill and wasted, operative treatment was suggested. On the 22d she mentioned that for a month she had been afflicted with insatiable thirst and sleeplessness; that the bowels were habitually constipated, and the urine greatly increased in quantity. On testing a sample of urine, of specific gravity 1036, no albumen was found; but, on boiling with Fehling's solution, it became evident that she was passing sugar. Menstruation was regular, and, though painful, not profuse. All thoughts of operation were abandoned. She undertook to live upon gluten bread and biscuits, fish, meat, and buttermilk; to give up starchy food and sugar, and as much as possible to restrict her drink. Soap-and-water enemata were ordered, and bromide of ammonium prescribed for the sleeplessness. Under this treatment the urine became reduced (from an unknown quantity) to five or six pints *per diem;* but, when samples were tested with Fehling's solution and by the differential density method, there was little diminution in the sugar. On March 16, three minims thrice daily of Clemens's solution of arseniate of bromine were substituted for the bromide of ammonium; and, a fortnight later, the dose was increased to ten minims; but, roughly estimated, the excretion of sugar continued unaltered. On April 15 she passed 2,560 grains in twenty-four hours. As she was becoming rapidly weaker and more emaciated, she was admitted into hospital on May 15, where the anti-diabetic diet was strictly maintained. On May 16, 1,200 grains of sugar were excreted. On May 19 the uterine appendages were removed. The right Fallopian tube was thickened in its walls, occluded at both ends, and distended with pus. The left tube was thickened, but not occluded at its fimbriated extremity, and contained only a little muco-pus. Both ovaries were so firmly adherent in the pelvis that their removal was somewhat difficult. The fundus of the uterus, which was bound by dense adhesions to the sacrum, was liberated. The patient recovered without a bad symptom, and with a surprisingly level temperature-chart. She got out of bed on the ninth day, and left hospital on June 3. Unfortunately, I am unable to add a complete account of the urine passed subsequent to the operation, as, through an error, no quantitative measurements of the sugar were made. During the first twenty-four hours, between six and eight ounces of urine containing sugar were drawn off every six hours. The specific gravity during the first six hours was 1028, next it fell to 1014, and then rose to 1034.

The sugar, tested daily with Fehling's solution, gradually diminished until May 26, when it finally disappeared. On June 12 the urine was normal, and of specific gravity 1020. For a week previously she had been at home on ordinary fare, except that she took no rice-pudding, and put no sugar in her tea. She then took rice-pudding daily, with unlimited sugar, until June 19, when the specific gravity of the urine was 1010, and not a trace of sugar could be detected. There is no longer constipation, and her strength is already almost completely restored.

He makes the following remarks in connection with the case:

Glycosuria being persistent under anti-diabetic regimen, and the health worse, operation was offered as a forlorn hope. Sir J. Paget makes no allusion to diabetes mellitus among "the various risks of operations;" but Dr. Dickinson, in his able work on the subject, says that "surgery is attended with unusual danger;" and Dr. Wm. Roberts states that "operations for diabetic cataract generally fail from uncontrollable suppuration of the eyeball." Beyond this element of danger, there was the fear lest the operation should do no good. Diabetes and pyosalpinx are not known in association. The patient was married ten years previously, had a still-born child a year later, and became a widow two years before I saw her. As the pelvic pain was of indefinite origin, the pyosalpinx was probably of ancient date, whereas the diabetic symptoms were recent. Still, there remained the possibility that removal of the suppurating tubes might cure the disease. There was a further argument: the younger the person, the less hope of ultimate recovery from diabetes. "The development and exercise of the sexual functions," says Dr. Wm. Roberts (*Renal Diseases*, 4th ed. p. 256), "appear to have a marked effect in increasing the liability to diabetes in both sexes; and the diminished frequency of the disease in women after the age of forty-five (as compared with men) corresponds with the earlier decline of sexual activity in the female sex." And not only is diabetes less frequent among women after forty-five; it is also less acute, and does not kill nearly so quickly. By induction of the menopause, it was hoped that the acute diabetes might become chronic.

MUSK.—Dr. H. C. Wood, in the *Therapeutic Gazette* of July 15, makes a plea for the renewed use of musk in adynamic febrile conditions. Many years ago, he says, Trousseau very earnestly called the attention of the profession to the value of the remedy in the treatment of adynamic pneumonia of drunkards, and the wonderful effects which he himself saw in such cases, led him to employ the remedy in typhoid fever. The reason that musk has fallen so largely into disuse is probably because its expensiveness has led to its being employed in too small doses. What the proper dose of pure musk is we have no idea, because there is no reason for believing that we ever see this drug in a state even approximating purity; but of the best commercial article there is no use in exhibiting less than 10 grains. It is best administered by rectal injection, the dose being suspended in an ounce of mucilage of acacia, to which is added 10 to 20 drops of laudanum, in order to secure its retention. The indication to meet which musk is given in typhoid fever is a sudden collapse. He then relates two cases in which its effects were quite marvellous. The symptoms in these two cases were seemingly antagonistic, and yet they rested upon the same condition of vital exhaustion. In the one case the vaso-motor centres had given out, and there was a corresponding fall of bodily temperature. In the other case the nervous centre, which inhibits the production of animal heat, entirely lost its power, and its sudden paralysis was followed by immense rise in the bodily temperature. The stimulant action of the musk had in either case the effect to restore power to the exhausted nerve-centres. The great indication for the use of musk is such sudden giving-out of the nervous centres which preside over organic life. In the last case mentioned these paroxysms of exhaustion were sometimes marked chiefly by peculiar rigors simulating those of an intense and very adynamic pyæmia. Nothing would control these rigors so well as musk.

In the employment of musk in adynamic conditions of the body, it must be remembered, he says, that it is one of those remedies that rapidly loses its power by repeated employment; its use, therefore, must not be economized, and the injections ought not to be repeated oftener than is necessary, or indeed to be given until demanded by the pressure of urgent necessity.

THE PRESERVATION OF THE PERINEUM. In a criticism of a recent paper by Dr. Frank H. Hamilton, Dr. S. A. Russell says in the *N. Y. Med. Record:*

In the lying-in wards of Professors Spaeth and Carl Braum, at the General Hospital, Vienna, the writer has seen many perineums preserved, has saved many himself, and is, therefore, able, from observation and personal experience, to bear witness to the usefulness of this practice. The more simple measures failing, recourse should be had to episiotomy—that is, incising the margin of the vulva on one or both sides, thus enlarging the outlet. Such incisions heal quickly, and, as compared with perineal rupture, are altogether insignificant. And this episiotomy is a very necessary measure when, after the outlet is distended to its full capacity and rupture is imminent, there remains no alternative but laceration. Of two evils the less should be chosen. Dr. Hamilton's cases, in which he has seen the perineum stretch to the thinness of paper and then suddenly give way, possibly might have been saved had an episiotomy been performed. The statistics of the Vienna Hospital show that, by proper care, ruptures may be reduced to a small fraction of one per cent., whereas writers on obstetrics have claimed ten or fifteen per cent. unavoidable.

What, then, are the appropriate means for preserving the perineum? Certainly not simple pressure against that structure, for such practice would not only be indeed useless, but absurd. Other means must be resorted to, the objective point being to gradually stretch the outlet so that the head may be safely expelled, which is accomplished by allowing the head to descend again and again hard against the perineum; in this way that structure is not taken by surprise, and the head is prevented from a too early and sudden tearing through of undilated parts. This is very practicable, though it sometimes requires all the available muscular strength of the accoucheur. Then, at last, after full dilatation of the outlet, if it be found impossible to deliver the head without a laceration, an episiotomy should be made, and for that purpose a bistoury should be at hand in anticipation of such a contingency.

The theory is easily understood, but practice alone can perfect the art. For ease and convenience the woman should be delivered on the left side. As she lies obliquely across the bed with the hips on the right edge, the nurse supporting the raised right knee, the physician sits behind, his left hand between the thighs, and covering the vulua; the right, with a towel intervening, over the perineum, though never hiding it from view. As the head is pushed down by the uterine contractions and the voluntary efforts of the woman, it is held from advancing too far, if necessary, by clasping the hands firmly against it. When the head has advanced far enough and the parts are sufficiently dilated, it is slowly and carefully shelled out between the pains, the woman assisting, if necessary, by voluntary expulsive efforts, as directed by the physician. Care should then be taken that the shoulders do not cause the injury the head has been prevented from producing. The writer is convinced that he has in this manner prevented a considerable number of otherwise unavoidable ruptures, and he confidently recommends such practice.

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LECTURES.

Floating Kidney: A Clinical Lecture delivered before the Post-Graduate Class at the Jefferson Medical College. By James C. Wilson, M.D., Instructor in Physical Diagnosis and Attending Physician at the Hospital.

Gentlemen:—I bespeak your attention to-day to a group of cases which are by no means the less interesting nor always the less difficult of diagnosis because they occupy the undefined border-land between health and disease. I refer to those cases in which the problem of diagnosis arises from actual displacement of the viscera. As compared with the number of patients suffering from positive disease which will come under your observation, the individuals subject to conditions of this kind will be few, indeed. And, perhaps, for this reason alone, these conditions are especially worthy of your attention ; just as comets, which are not always more conspicuous than the other heavenly bodies, especially interest astronomers by reason of the infrequency of their occurrence as well as by reason of the eccentricity of their orbits. But these comparatively rare conditions are not only often difficult of diagnosis, they also frequently occasion serious secondary lesions, and the gravest consequences to health.

In general terms, displacement of the organs of the body—aside from such changes of position as are secondary to pathological processes in adjacent parts—may be referred to two principal groups. First, those due to some departure from the usual order of development. This is seen in heterataxia, where lateral transposition of one or more or of all the organs may occur. To this group are also to be referred those cases in which the testes are permanently retained in the cavity of the abdomen—cryptorchidism ; and second, that group of cases in which organs have become dislocated in consequence of the relaxation or giving way of the normal tissues of support. This group includes (*a*) herniæ of all kinds, in which there is local failure of the walls of cavities conjoined with elongation of those anatomical reflexions of tissue which form the visceral ligaments, and (*b*) cases of the latter lesion alone, whereby certain of the viscera are permitted not only to depart from their normal sites under the influence of gravity and various pressures, but also to move more or less freely around, and hence come to be termed movable or floating organs.

Owing to their peculiar anatomical relations, the kidneys are of all the organs the most liable to this form of displacement, and I am fortunate in being able to present to you for examination this patient who has been for some time under my observation, and who presents for your study an excellent example of the condition known as movable or floating kidney.

The patient who has been before my classes on previous occasions, is aware of the character of her trouble, good-natured and intelligent ; moreover, her general health is, in consequence of treatment which we have advised, much better than for a long time, and she submits willingly to such manipulations as are necessary to demonstrate to you the physical signs of her abnormal condition.

She is a married woman, 35 years of age, the mother of seven children, of whom the youngest is two and a half years old. Shortly after the birth of her last child she noticed on the right side of the abdomen near the median line and above the level of the umbilicus an oblong, regular, slightly crescentic tumor, measuring in its vertical diameter about six inches, in its lateral diameter about two inches and a half. This tumor, the outline of which can be distinctly felt through the relaxed abdominal walls, is of moderately firm consistence and somewhat tender upon manipulation. Its concavity presents toward the median line and backward. It is freely movable within certain limits, and can be displaced an inch or more toward the right and as far toward the left as the median line. In the erect posture it occupies a position somewhat lower than that which it assumes when the patient lies upon her back. In the latter posture it is possible by gentle manipulation and pressure upward and backward to cause the tumor to wholly disappear, only, however, to become again evident when the patient assumes the erect position. Physical examination reveals no pathological enlargement or displacement of the organs of the body commonly accessible to this method of investigation. Percussion, however, in the lumbar region near the spine elicits upon the right side a percussion note somewhat more resonant than that of the corresponding region on the left side. Inspection, and still more satisfactorily, palpation indicate slight flattening of the right side in this region as compared with the left. Upon causing the tumor to disappear as above described, all these physical signs vanish. Light percussion over the tumor elicits dullness, more forcible percussion tympanitic resonance analagous to, but less intense than, that elsewhere over the abdomen. Careful chemical and microscopical examinations of the urine on several occasions have estab- the fact that there is no disease of the kidneys. For the rest, as I have already stated, this woman's health is fairly good, much better than for several years, and the presence of this tumor no longer occasions the physical distress and mental anxiety that it formerly did. The explanation of this important change in the patient's symptoms bears directly upon the etiology and general management of such cases. Some months ago her health reached the lowest point in a life of unremitting hard work and rapid childbearing. She was anæmic, weak, much troubled with vague and with definite pains, the latter being constantly present in the back and pelvis, and accompanied with a constant sense of tension and pressure. Pains of a dragging and teasing character were associated with the presence of the tumor, itself a constant source of anxiety, its nature being then unknown to her. She suffered also from abundant leucorrhœa and a tormenting frequent desire to pass urine. The tumor was at that time almost constantly present, and if it disappeared upon assuming the recumbent posture or under the manipulations of our examination, it was only for a brief time. Not only is her general health much improved in all respects, as you perceive, but the tumor itself, as she tells us, is no longer a source of mental anxiety to her, nor, indeed, of any very great physical suffering. Nay, more, she assures us that it can be caused to disappear for long periods, and on one occasion recently was not present for three weeks. It is, however, apt to reappear on efforts of lifting and particularly on carrying heavy weights up-stairs.

Her improved physical condition is due to the fact that an important uterine lesion, the real cause of her more serious symptoms, was at that time discovered and relieved by operative measures. The lesion consisted in extensive bilateral laceration of the neck of the uterus with marked ectropion of the cervical mucous membrane and hypertrophy. The operation was performed by Dr. C. M. Wilson, at the Nurses' Home, and was in every respect a complete success. The patient was kept upon her back for three weeks and was treated with small doses of strychnia in Basham's mixture, having at the same time a generous and wholesome diet. In the course of time the anæmia, the feebleness, the general and localized pains, the leucorrhœa ceased, and the condition of the patient is, she declares, now better than it has been for several years.

The disposition on the part of the kidney to retain its normal place is due to the higher position of the uterus since the operation, and the improved tonicity of the abdominal walls, which the general improvement in health has brought about.

With this improvement of her physical condition, there has been a remarkable gain in the patient's mental state. The removal of the thorn in the flesh, the three weeks' rest in bed without toil, without anxiety, with plentiful food, did much for her. Moreover, her mind is at rest concerning the nature of the tumor, which she now knows it not, as she formerly feared, a cancer.

Movable kidney may be congenital or acquired. When congenital, it is due to the anatomical anomaly of elongated renal vessels and the existence of a mesonephron. When acquired, the absorption of the encapsulating fat resulting from acute or chronic sickness, congenital laxness of the posterior peritoneum and relaxation of the abdominal walls, such as is usually present in women who have borne several children, must be looked upon as favoring causes. The much greater frequency of movable kidney among the laboring classes gives color to the supposition that the lifting and carrying of heavy weights tend to establish the condition in individuals otherwise predisposed to it. Movable kidney is far more frequent in females than in males, the proportion being six to one. It has been observed in childhood adolescence, but the greater number of cases occur in women during the child-bearing period. The right kidney is displaced much more frequently than the left, the proportion being nearly five to one, and less frequently both kidneys are displaced. The displaced kidney is not necessarily altered in the structure, but may be affected by malignant, fatty, or other degeneration. It is movable in the segment of circles of which the radii correspond to the length of the renal vessels, but it occasionally happens that in consequence of local peritonitis, it contracts adhesions to contiguous organs and becomes fixed. When the abdominal walls are sufficiently thin palpation reveals the characteristic renal outline of the tumor, and, in some instances, the pulsation of the renal artery has been detected. The difficulties of diagnosis presented by a kidney only slightly displaced, or in individuals with thick abdominal walls, are sometimes very great. The outline of the tumor is usually greater than that of the normal kidney, a fact readily explained in the absence of actual enlargement of the organ by its being invested by the posterior layer of the peritoneum and the subserous connective tissue. The most common symptoms are a sense of weight or dragging in the position of the tumor, to which are often added dull, radiating, neuralgic or collicky pains, all aggravated by movement and exercise. Dyspeptic symptoms are also commonly present, and nausea is by no means rare. Mental depression and anxiety, as has already been pointed out, are frequent and important symptoms.

The prognosis as regards life is favorable as regards permanent relief, unsatisfactory.

The treatment, by a sort of contradiction of terms, is more satisfactory than the prognosis, for while you cannot relieve the condition, you can do much to make it bearable. In the first place, you must make your patient understand the nature and character of the tumor, in order to relieve his mental symptoms; in the second place, associated causes of ill-health must be removed. The patient before you affords a striking illustration of the importance of this course. As anæmia and inanition are very frequently present, a generous diet and the use of iron are indicated. As the subjects of this condition are frequently overworked as well as underfed, rest and the avoidance of the most toilsome occupations are, if possible, to be secured. You will find in your text-books abdominal bandages, variously padded, recommended to secure the kidney in its position, an object in which for the most part they utterly fail. If the symptoms be such as to wear the patient out and to incapacitate him for self-support and enjoyment of life, or if the displaced organ be the seat of malignant or suppurative disease, surgical interference may become necessary. In the former case, whether the displaced organ, free from disease, should be extirpated—nephrectomy—or fixed in the loin—nephrorrhaphy—is still an open question in surgery. In the latter case, extirpation is the only resource, and nephrectomy is, as you know, even under favorable circumstances, one of the most fatal operations of surgery.—*Med. News*.

ORIGINAL ABSTRACTS.

A SEVERE CASE OF TRAUMATIC TETANUS, WITH RECOVERY. (Dr. Wm. C. Wile in the *New England Med. Monthly*.)—Cases of tetanus, of any character whatever, which recover, are of exceeding interest to the general practitioner, and when they approach in severity the following one, and then get well, the therapeutics of that case are eagerly scanned and stored up for future use. In an active practice of nearly fifteen years, I have never met with a case of the same degree of severity as the one herein recorded. After the second visit, it did seem that it could not terminate otherwise than fatally, and this idea alone prompted me to use the heroic measures which were subsequently adopted. While the medicines used are not new to the profession, still, I think that the doses are phenomenal, and I attribute to their size the recovery of my patient. Frank N——, a resident of Newtown, Conn., twenty-one years of age, unmarried, American, sent for me on the night of February 13. The messenger informed me that he was having fits, and that some of the family thought that he might have taken an overdose of laudanum. As you may well imagine, I went as quickly as possible. On my arrival at the bedside of the patient I found him perfectly conscious, but suffering, as he informed me, from inward chills, and his attendants said that he had had a number of ill-defined convulsions. On making inquiry as to the history of the case, I learned that on the week previous he had cut his knee immediately over the patella with an axe, that the wound had healed entirely, and that there was at the time no evidence of the injury save a well-formed cicatrix. For a few days previous to my visit he had complained of pains, more or less severe, in the limbs and the various muscles of the body, creeping chilly sensations up and down the spine, with quite pronounced chills at night. His head had ached, more or less, he had had hot flashes alternating with chilly sensations, and, finally, pronounced muscular pains all over the body. His temperature at this time was 101.2°, his pulse 120, full and bounding. After a careful examination of the case, the theory of opium poisoning was abandoned, for the obvious reason that none of the symptons of that condition were present, and I wasinclined to doubt the theory of convulsions, on the ground that there was not present at the time of the examination sufficient evidence of that degree of exhaustion which we would be very likely to find after a case of the kind described by the patient's friends. He was rational and answered all my questions correctly and promptly. After waiting a reasonable length of time for the return of the fits, as described, and none appearing, I made a diagnosis of a probable moderate congestive chill—the locality where he resided being particularly malarious. I gave directions to have him take an eighth of a grain of morphia every two hours to quiet his nervousness and overcome his alarm, and ordered him an enema, consisting of an ounce each of sena leaves and epsom salts, steeped twenty minutes in a quart of hot water, to unload his bowels. I also ordered him to commence taking two grains of quinine every two hours on the following morning, and left him with a promise to see him some time during the next day. Professional engagements, however, over which I had no control prevented me from seeing him at all on the 14th, but as I was on my way to his residence early the morning of the 15th, I met a messenger coming for me, who informed me that the patient was very much worse, and urged me to be as expeditious as possible. In a few minutes I was at his house. On entering his room I found four men trying to hold him in bed. He was in convulsions, passing from one to another with great rapidity. They were of the most frightful character I have ever witnessed. The oposthotonos was perfect, the weight of the body resting upon the occiput and heels, the contour of the body making a perfect bow. The convulsions followed each other with great rapidity, repeating themselves again and again, until it did seem as though exausted nature would succumb. Sitting down by his bed-side I administered some chloroform from a napkin, and, after some little effort, succeeded in getting him under its influence, but it was only when fully anæsthetized that the convulsions ceased. I stayed with him about two hours, and by watching him closely, and giving the chloroform liberally, I was enabled to keep the convulsions fairly under control. On leaving him I ordered the morphia in ½ grain doses, and directing that the chloroform should be continued whenever the convulsions returned, I promised to see him early in the evening, and, if necessary, stay all night with him. At about 8 o'clock P. M. I visited him again. From information gained from the friends I found that he had been easy only at short intervals during the day, and then only when under the influence of the chloroform. The repeated and large doses of morphia, seemingly had no effect whatever. On entering his bedroom I found him in a most distressing convulsion, which I cut short by a very free and prompt administration of the chloroform. After getting him quiet I gave him sixty grains of chloral hydrate mixed with sugar and water. This he retained well, and in the course of twenty minutes I became satisfied that there was an improvement in his condition. Another convulsion threatening at this time, I administered another dose of the same remedy and of the same size. After this he became quiet and did not have another convulsion for two hours. Being compelled to see another urgent case, I left him, with directions to give a like dose every half hour or every twenty minutes, in the event of the return of the convulsions. This was the only medicine that was given after this—the morphia being stopped—except that the chloroform was administered to help the chloral when it would not control the convulsions sufficiently. In the meantime the bowels had been thoroughly unloaded with the enema, and the skin was in a little better condition; his pulse, however, was 144, and his temperature 104° Fahrenheit. It is estimated by his friends, and I do not doubt it myself, that he had had from seventy-five to one hundred convulsions in the previous twenty-four hours. During that time a marked redness appeared at the edges of the cicatrix on the knee, and did not disappear till convalescence was fully established. For several days the convulsions returned many times, but, under the continued administration of the chloral in large doses, they became less and less severe, and less and less frequent, until the 20th day of February, when they ceased entirely. The chloral was given every two, three, or four hours during all this time, the whole amount consumed being six ounces and a half, besides the administration, by inhalation, of two pounds and a half of chloroform. After the 20th he was put upon large doses of the bromide of potassium, a full dose—sixty grains of the chloral being given at bed-time, in order to ensure a good night's rest. Soon after the convulsions ceased, he commenced to have a ravenous appetite, which it was exceedingly difficult to satisfy without interfering with his digestion. The patient, seemingly, made an excellent recovery, and on Friday, the 27th day of February, I made what I supposed to be my last visit, leaving him in most excellent spirits, and complaining only of muscular soreness. I cautioned him against leaving his room or going out-doors for a week, impressed upon him the necessity of great care in his diet, and the avoidance of undue excitement. Two days afterwards (Sunday) he insisted upon being taken to his home, about a mile distant, and upon his arrival there made a very hearty supper of indigestible food, winding up with some cake, which had been fried in grease. The result was that before midnight he had a relapse of his trouble, and before I saw him the following morning, at six o'clock, he had had thirty-one consecutive convulsions. He was immediately put upon the old treatment, the chloral administered in large and repeated doses, and, after a long and severe illness, suffering two or three relapses, he finally, after the expiration of seven weeks, entirely recovered. His nervous system long showed very prominently the terrible ordeal through which it had passed, and for a time exhibited all the evidences of that nervous trouble so rare in the male—hysteria.

CASE OF RECOVERY FROM MALIGNANT PUSTULE.—(Dr. W. E. Buck in *British Medical Journal.*) Mr. F., aged thirty-one, a veterinary surgeon, experienced on October 6 a stinging sensation at the back of the right wrist. A small bleb was formed, which he scratched off, and there was some tenderness of the elbow and arm-pit. He had a slight rigor. On October 8 he was seen by Dr. Meadows, who prescribed some salicylate of soda and tincture of aconite, in frequent doses, as his temperature was 104°, and the rigors continued almost the whole of the day. A black eschar began to form on the afternoon of the 8th, and on the 9th it became about the size of a sixpence; its base was red and œdematous, and surrounded by some vesicles in a circular shape. The temperature was nearly 104°; the patient felt cold, and his tongue was foul. I visited the case with Dr. Meadows, and we injected pure carbolic acid under the eschar, using an ordinary hypodermic syringe. Unfortunately, we could only introduce a small quantity, as it oozed out in the withdrawal of the syringe, and with it a serous-looking fluid. I dried some of this fluid on a cover-glass, stained it with methyl-violet, and found the well-known bacilli of anthrax. We prescribed large and frequent doses of soda-hyposulphite, and ordered also a large quantity of meat. Under this treatment he rapidly improved. On October 12 we again injected carbolic acid. The temperature came down, and, as the patient said he felt all right, the hyposulphite of soda was reduced to three times a day. The eschar did not finally separate for nearly six weeks, and the ulcer then soon healed. I believe that the main remedy in this case was the injection of pure carbolic acid, a mode of treatment which does not seem very painful. There was a clear history of the disease, which was contracted exactly twelve days before its first appearance, Mr. F. having examined the flesh of an animal that had died from anthrax.

PREGNANCY AND LABOR COMPLICATED WITH FIBROIDS.—In the *Boston Medical and Surgical Journal* of July 30, Dr. James R. Chadwick reports ten cases of this character, and makes the following remarks in regard to them:

The *results* of these ten cases of pregnancy and labor complicated with fibroids may be thus summarized:

Miscarriage	1 case.
Recovery of mother	7 cases.
Death " "	2 "
Living child	7 "
Stillborn child	2 "

With regard to miscarriage, it has been shown by Lefour that this effect of the complication of pregnancy with fibroids is not so common as might be expected. In 227 cases which he cites, miscarriage occurred but thirty-nine times, which is once in 5.82 cases. These figures show no more liability to miscarriage than in cases of pregnancy uncomplicated with fibroids. The prognosis for the mother, indicated by my cases, is much better than is warranted by the accepted statistics. Thus Lefour states that in 286 cases, including women who miscarried as well as those who went to full term, 141 mothers died, which is one in 2.02 cases. W. Susserott states that, in one hundred and forty-seven cases which he compiled, seventy-eight mothers died=53 per cent. The rates of mortality for the mothers, above cited, I believe to be much higher than we should have were all cases to be reported, it being manifest that those cases presenting no serious results are often thought unworthy of publication. With regard to the children, Lefour found that of fifty-two infants, thirteen were deadborn. Susserott states that of one hundred and thirty-eight (including one case of triplets and two of twins) children, forty-seven only survived=34 per cent. Regarding the position of the child at time of labor, my cases show seven presentations of the head and two transverse presentations. Lefour shows that in one hundred and two cases there were fifty-two presentations of the head (50.98 per cent.), thirty-three of the breech

(32.35 per cent.), and seventeen of the trunk (16.66 per cent.). In each of my two cases of transverse presentations the tumor partially filled the pelvis, so that a transverse position of the child must almost of necessity have occurred. This should be borne in mind by obstetricians in the management of such cases. With regard to the special complication of labor induced by the presence of the tumor, the above cases illustrate the frequency of inertia of the uterus and the liability to septic poisoning in childbed. This latter danger is hardly mentioned by the authors above quoted; but this omission on their part is attributed to the new views of the pathology of childbed which have come to prevail since the cases occurred of which their compilations are largely composed. The presentation of a large tumor at the external os, as in case VII., immediately after delivery, would seem to be almost a most unique observation, though several cases are cited in which a tumor thus presented in the latter days of childbed. As septic poisoning, with fatal result, occurred in this case, when no attempt at enucleation was made, it may be fairly doubted whether an operation would not have determined a different issue. The post-mortem condition, however, seemed to confirm our serious belief that any operation for removal of the tumor would have been very difficult, very bloody, and, if successful, have left an immense wound for the absorption of septic matter. The degree of danger to which the woman is exposed in these cases undoubtedly depends greatly upon the precise location of the tumor. Thus in cases II., III., IV., V., VI., and IX., the tumors appeared to be subperitoneal, and all passed through labor and childbed without complication, except for slight septic infection in case IX. In cases I., VIII., and X., the tumors were submucous, and two died, while the third recovered after septic infection in childbed. The location of the tumor in the lower segment of the uterus, so as to interfere with the delivery of the child, introduces the most serious element of danger during delivery. Should this condition exist, and a vigorous attempt under ether to elevate the tumor from out the pelvis early in pregnancy fail, induced abortion, or at least premature labor, would be the safest course to pursue. Regarding the effect of pregnancy and labor upon the tumors, my cases demonstrated, in accordance with the accepted teachings, that the tumors increase enormously in size with the progress of the pregnancy. After labor, however, the current belief is that the tumors return to the size from which they started before pregnancy. That this is an error would seem to be made clear by the fact that, in six of the eight patients who survived, no trace of the tumors could be found postpartum, at observations recorded after an interval varying from two weeks to twelve months respectively (cases II., III., IV., V., VI., IX.). In case VII., in which miscarriage occurred at three and one-half months, one tumor was entirely absorbed, and the other was unaltered in size. In case X. the tumor was sessile and only as large as a goose's egg, but appears not to have been absorbed. The above experience would seem to warrant the following deductions, which do not make a part of the doctrines hitherto prevalent upon the subject:

As aids to *diagnosis*, the following points should have great weight:

(1) An area of flat percussion beyond the limit or limits of tumor or tumors.

(2) Unduly rapid growth of a fibroid.

(3) Bluish discolorations of the vaginal entrance.

As to *treatment:*

(4) That intrauterine disinfectant douches should be administered throughout the puerperal period in all cases, even before the supervention of symptoms.

As to *prognosis :*

(5) That fibroids are, as a rule, absorbed during involution of the uterus or soon after.

EMMET'S OPERATION. WHEN SHALL IT, AND WHEN SHALL IT NOT BE PERFORMED ?—Dr. Gustav Zinke, of Cincinnati, concludes an elaborate paper on this subject, published in the *Journal of the American Medical Association*, as follows:

The following are my conclusions, drawn from the above tabulated record, from text-books, from the numerous articles referred to, and my own clinical experience, extending over a period of seven years as assistant of Prof. C. D. Palmer's Clinic, at the Medical College of Ohio :

1. It is evident that *the operation has been performed unnecessarily for symptoms similar to but other than those arising from lacerations of the cervix.* Further, that *it has been done imperfectly, even without preliminary treatment, in many more ;* and *the failure to give relief*, as reported by several, *is due to these two causes.*

2. That from our present knowledge we cannot, at this time, arrive at any definite conclusion, from the fact that many of the so-called consequences of lacerations of the cervix uteri are not settled beyond doubt.

3. That every one engaged in this department should carefully select his cases, and try every known means to give relief before recourse is had to an operation.

4. The operation should never be performed *eo ipso* in cases of simple fissures or lacerations of first and second degree.

5. In cases of eversion and disease of the cervical or corporeal cavity, or both, although attended by hyperplasia and displacement, it has been observed that all the symptoms abated and the parts returned to their natural condition, and that no laceration was discoverable after alleviative measures were instituted first, which alone caused the parts to return to a normal condition:

6. That there are some cases of extensive lacerations of cervix that seldom give rise to any inconvenience, and that, therefore, an operation should be deferred until symptoms arise that will call for its performance.

7. The operation, although indicated, should never be performed until, by preparatory treatment, the parts have been brought into a healthy condition.

8. Near, and during, the climacteric period the operation should be postponed as long as possible, and the patient not exposed to any risks, since in many cases all the symptoms subside under proper treatment, and never return on account of senile involution.

9. The operation is justifiable in cases of lacerations of the third and fourth degree, without complications, if there is a history of malignant disease in the family.

10. The operation may be performed with perfect propriety in young women, as a preventive, if the laceration is bilateral and extends up to the cervico-vaginal junction, or beyond it, even though there are no pathological changes; indeed, it seems to be the duty of every one, who observes a lesion to that extent, to urge the operation.

11. The operation is justifiable in any degree of laceration, and in rare instances even in fissures, when there exist cicatricial tissues, productive of reflex disturbances, annoying in character, and not tractable to any other treatment.

12. The operation is absolutely indicated in all extensive tears of the os, in which the cervix is everted, its mucous membrane and Nabothian follicles diseased, and especially if there be granular or cystic degeneration present, provided the parts have been restored to a healthy condition by palliative treatment.

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HOSPITAL NOTES.

THE AMBULANCE SERVICE OF CHARITY HOSPITAL, NEW ORLEANS.

To the Editors of the N. O. Med. and Surg. Journal:

GENTLEMEN—In response to your letter of inquiry, it gives me pleasure to furnish the information you desire in regard to the Charity Hospital Ambulance service.

This service was organized to meet a demand well-nigh imperative. Since the erection of the hospital, in 1832, the sick and injured have been brought to the door in vehicles of every conceivable kind employed in the travel and traffic of the city. Many patients suffered discomfort merely, while others sustained injuries prejudicial to their after-treatment. Some—only a few, let us believe—must have succumbed to the delay and ill-usage incident to such haphazard transportation.

The Board of Administrators, having recently renovated the hospital, with improvements and additions in every department of the service, realized more fully the necessity of improved means for conveying patients to the door. They resolved, in August, 1884, to establish an ambulance service, and intrusted to the writer the work of organization.

Preparatory to the work, the ambulance equipments of the best Eastern hospitals were thoroughly inspected. The New York hospital service deserves special commendation. The points of practical utility observed here and there, suitable to our requirements, were embodied in the specifications for two ambulances for the Charity Hospital. They were built by the New York City branch house of the Abbot-Downing Company, of Concord, N. H. The work was exceptionally well done. The Charity Hospital Ambulance, designated by gilt lettering on the sides, presents a striking and attractive appearance. It is a commodious vehicle, weighing sixteen hundred pounds, and requires a double team. Although wagon-built, to be durable, it has a carriage finish, and is mounted on easy springs. The body is made entirely of paneled wood, lined with varnished maple, for cleanliness, and arched for short turns. The interior is conveniently fitted up with medicine chests, boxes for surgical apparatus, racks for splints, hooks for swinging the lantern, the surgeon's satchel, etc. The surgeon's seat is inside, and when unoccupied folds up out of the way. The ambulance is provided with an easy bed, which trundles in and out, and which can be used as a litter. The bed rests on a wooden frame, which is fitted in the bottom of the wagon, and which is itself supported by steel springs placed longitudinally. These extra springs, a home invention, contribute no little to an easy ride. In addition to the bed, there is an improved field stretcher, with adjustable handles, convenient for bringing patients out of places not easily accessible, and indispensable for lifting and handling them without inflicting pain and injury unnecessarily. While still resting on this stretcher, the patient is lifted into an ambulance, and from the ambulance to the rolling litter in waiting at the hospital door. Thus the patient is easily and quickly conveyed to the operating-room, or to any ward of the hospital buildings. The medicine chests contain the anodynes, antidotes, and stimulants most serviceable in emergencies: Chloroform, sulphuric ether, whiskey, brandy, carbolic acid, olive oil, ferri ox. hydrat., Monsel's solution, dialysed iron, ergot fl. ext., aqua ammoniæ, solution ammon. carb., cosmoline, mustard, syrup morph. sulph., tr. opii camph., hypodermic tablets and syringe, water, graduated glasses, one gallon of carron oil. This oil makes a dressing quickly and easily applied in the emergency of burns and scalds. The surgical outfit consists of the following: Complete pocket case of instruments, extra Langenbeck's forceps, set of (3) tourniquets (Mass. Gen'l Hosp.), folding fracture box, two Liston's long splints, wooden and tin splints for extremity fractures, bandages, charpie, carbolized gauze, cotton padding, pillows, oakum, surgeon's lint, sponges, tracheotomy tubes, Nelaton's catheter, pus pans, water-bucket, etc.

The wagons having been constructed and equipped as above described, and the fourteen resident students charged with the special duty of ambulance surgeons, the Charity Hospital Ambulance Service was organized by resolution of the Board of Administrators, February 2, 1885.

RULES AND REGULATIONS.

1. The ambulance service, constituted a part of the medical department, shall be conducted under the general rules governing the hospital.

2. An ambulance will be dispatched to any part of the city at the call of patrons of the service, physicians, the city police, the fire department, or other responsible source, subject to the approval of medical officers of the hospital.

3. When out on a call, the ambulance shall be attended *only* by the driver and a member of the medical staff on duty for the day, each designated by the badge of the service.

4. The medical attendant of the ambulance shall have entire control, shall administer to patients such temporary treatment as may be necessary, and, except in cases specified below, convey them without delay to the hospital.

a. The ambulance shall not receive cases of small-pox, or other patients rejected by the rules of the hospital.

b. In cases of surgical accident, by request patients may be removed to their homes, or places of lodging, without charge.

5. Upon return of the ambulance to the hospital, the medical attendant

shall supervise the removal of patients to the ward, or operating-room, and then report to the House Surgeon, or to the Assistant. It shall also be his special duty of the day to record in the clinical note-book of the ward his knowledge of the patient's disease or injury and the preliminary treatment adopted.

6. The ambulances may be hired by responsible persons, and for suitable purposes—for instance, the conveyance of patients between steamboat landings, railroad depots, and the hotels—for ten dollars; the amount thus accruing to be credited to the fund of the service.

7. The Ambulance Relief Fund, created by resolution of the Board of Administrators, and aided by the contributions of patrons, shall be devoted exclusively to establishing and maintaining this service and enhancing its usefulness as a practical charity.

Contributions to this fund are acknowledged by the Secretary and Treasurer of the hospital, and up to date amount to $2,690.

An account of the practical working of the service may be of interest. The ambulance is usually called by telephone. To ensure hearing the signal at night, an electric bell at the gate, where the watchman is on duty, is switched on to the telephone wire. By a system of electric bells, the call is immediately transmitted to the driver's room in the ambulance stables, and to the surgeon on duty for the day. In from one and a half to three minutes, day or night, the ambulance is under way. By ordinance of the City Council the ambulance has right of way, within the city limits, over all vehicles except those of the fire department and the U. S. Mail Service. In answering calls, the ambulance corps move with all possible dispatch. Several instances are cited. On the 3d of March, an Exposition lady visitor, unfamiliar with our open gutters, fell on the corner of Camp and Poydras, dislocated her shoulder and fractured her leg. Within fifteen minutes the patient was at the hospital operating-room, and very shortly afterwards her dislocated shoulder was reduced and her limb dressed in a fracture-box.

On the 15th of May, a call came from the Mexican musician shot on the Exposition Grounds. Within forty minutes the ambulance reached the spot. The street car goes in fifty-five minutes. The musician, thought to be fatally wounded, was brought to the hospital, and recovered. In gratitude for this service the Mexican Band tendered a concert for the benefit of the Ambulance Fund, the net proceeds of which amounted to $693.90. In further compliment to the Hospital Ambulance Service, Major J. Fernandez Ortigosa, Surgeon of the Mexican Commission, World's Exposition, has been instructed by the home government to order duplicates of our ambulances and outfit, to be used in the City of Mexico, and in transporting patients from the city to the Army Hospital, eight miles distant.

The prompt aid rendered on the spot by the Ambulance Corps is in many instances invaluable.

On the 3d of March a negro man received a stabbing wound of the abdomen, four and a half inches in length, through which protruded four feet of small bowel. The ambulance surgeon reached the spot promptly, reduced the bowel, sutured the wound, and conveyed the patient to the hospital. He recovered, and was discharged one month afterward.

On the night of the 7th of June, the excursion train of the Mississippi Valley Railroad was derailed, seventeen miles out of the city, causing several serious casualties and a number of minor injuries. The ambulances were dispatched to the depot, seven members of the medical staff, by special train, hurried to the scene of the accident with appliances for the emergency, and superintended the conveyance of those who chose to come to the hospital.

Railroad and steamboat corporations, owners of machine shops, manufactories, etc., should surely be enlisted among the patrons of this service, and contribute to its maintenance. By a system of signals, turned in from the fire-boxes, located throughout the city, the engineer of the fire-department may, at any hour, call an ambulance to the scene of accident.

Indeed, the Hospital Ambulance Service, within the short space of five months, has become one of the most useful and practical of our charities. The efficiency so far attained is due, in a large measure, to the competency of the staff of resident students of the hospital, and the zeal with which they discharge their special duty. It gives me pleasure to make this acknowledgment.

I remain, gentlemen, yours very respectfully,

A. B. MILES.

Charity Hospital, June 16, 1885.

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SANITARY DEPARTMENT.

TYROTOXICON—CHEESE POISON.

At a meeting of the Michigan State Board of Health held July 14, 1885, Prof. S. C. Vaughan, M.D., Ph.D., read a paper on the above subject, of which the following is an abstract:

Dr. Vaughan presented a report of his investigations on poisonous cheese. It is well known that cases of severe illness follow the eating of some cheese. Such instances are of frequent occurrence in the North German countries and in the United States. In England they are less frequently observed; while in France, where much cheese is made and eaten, these cases are said to occur very rarely, A few years ago, the reputation of a large cheese factory in Northern Ohio was destroyed by the great number of alarming illnesses arising from eating its cheese. Dairymen know this cheese as "sick" cheese.

Kinds of Cheese that are Poisonous.—A German author says: "The numerous kinds of soft cheese prepared in small families, or on small farms, are generally the cause of the symptoms arising from the use of cheese prepared in large quantities." Some two years ago, a family in Alpena, Mich., was poisoned by eating of cottage cheese; but the cheese which poisoned so many in this State last year was made at one of the largest factories in the State, and by a thoroughly experienced cheese-maker. The old foul-smelling cheese, such as Limburger and Schweitzer, have never been known to be poisonous.

Effects of the Cheese.—The symptoms produced by "sick" cheese, as reported by German and American physicians, agree quite closely and are as follows: Dryness of the mouth and throat, with a sense of constriction, nausea, vomiting, diarrhœa, headache, sometimes double vision, and marked nervous prostration. In rare instances the sufferer dies from collapse. As a rule recovery occurs in a few hours, or at most after a few days. The symptoms of cheese-poisoning and those of sausage, canned-meats, and fish poisoning are very similar; though death results more frequently from the others mentioned than from cheese-poisoning.

Appearance of the Cheese.—The samples of the cheese examined had no peculiarities of appearance, odor, or taste, by which it could be distinguished from good cheese. It is true that if two pieces of cheese—one poisonous and the other wholesome—were offered to a dog or a cat, the animal would select the good cheese. But this was probably due to an acuteness of the sense of smell possessed by the animal and not belonging to man. Indeed, if a person tasted a cheese, knowing that it was poisonous, he might detect a sharpness of taste which would not ordinarily be noticed.

Have we any Ready Means of Recognizing Poisonous Cheese?—There is no certain means, aside from a chemical examination, by which a poisonous cheese can be distinguished from a wholesome one. The most reliable ready method is probably that proposed by Dr. Vaughan a year ago, and it is as follows: Press a small strip of blue litmus paper (which can be obtained at any drug store) against a freshly cut surface of the cheese; if the paper is reddened instantly and intensely the cheese may be regarded with suspicion. When treated in this way any green cheese will redden the litmus paper, but ordinarily the reddening will be produced slowly and will be slight. If the piece of cheese be dry, a small bit should be rubbed up with an equal volume of water, and the paper should then be dipped in the water. Dr. Vaughan does not regard the above test as free from error, but as the most reliable ready means now known. Every groceryman should apply this test to each fresh cheese which he cuts. The depth of the reddening of the paper may be compared with that produced by cheese which is known to be wholesome.

Effects on the Lower Animals.—Dogs and cats, at least, are not affected by eating poisonous cheese. This is probably due to the fact that they did not get enough of the poison from the amount of cheese which they ate. The pure isolated poison in sufficient doses would undoubtedly produce upon the lower animals effects similar to those produced on man.

Nature of the Poison.—Dr. Vaughan has succeeded in isolating the poison, to which he has given the name tyrotoxicon (from two Greek words which mean cheese and poison). It is a product of slight putrefaction in the cheese, which probably occurs in the vat, as the curd has been known to poison a person. By this slight putrefaction, or excessive fermentation, as it may be called, a large amount of butyric acid is formed, and this in the presence of the casein of the cheese is capable of developing a poison. Different samples of poisonous cheese contain different amounts of the poison. The same weight of cheese from one cake furnished three times as much poison as that from another cake. The poison was obtained in long needle-shaped crystals which are freely soluble in water, chloroform, alcohol, and ether. The smallest visible fragment of a crystal placed upon the end of the tongue causes a sharp stinging pain at the point of application, and in a few minutes dryness and constriction of the throat. A slightly larger amount produced nausea, vomiting, and diarrhœa. The poison is volatile at the temperature of boiling water, and for this reason even poisonous cheese may be eaten with impunity after being cooked. The substance has also a marked, pungent odor, and through the nose one can obtain sufficient of the volatile poison to produce dryness of the throat. This is true, however, only of the isolated poison. In the cheese the taste and odor of the poison are both modified to such an extent that they would not be recognized, as has already been stated.

The first step in the study of cheese poisoning has now been taken, by finding out what the poison is. Efforts will be made to ascertain the means for preventing its formation.

RECOMMENDATIONS OF THE COMMITTEE ON DISINFECTION, ADOPTED BY THE ROME CONFERENCE.

The committee, consisting of Sternberg (U. S.), Koch (Germany), Proust (France), Thorne-Thorne (England), Eck (Russia), Semmola (Italy), and Hoffmann (Austria), recommends as a means of disinfection against cholera, with especial reference to vessels and their reception and treatment at ports of arrival, the following:

1. Steam at 100° C. (212° Fahr.). 2. Carbolic acid and chloride of lime. 3. Aëration.

Carbolic acid and chloride of lime are to be used in aqueous solutions. Weak solutions: Carbolic acid, 2 per cent.; chloride of lime, 1 per cent. Strong solutions: Carbolic acid, 5 per cent; chloride of lime, 4 per cent.

These means of disinfection will be applied as follows:

I. For the disinfection of the person the weak solutions should be employed.

II. For the disinfection of clothing, bedding, and other articles of this kind (*a*), destruction; (*b*) steam passed through the articles for one hour; (*c*) boiling for thirty minutes; (*d*) immersion for twenty-four hours in one of the weak disinfecting solutions; (*e*) aëration for three or four weeks, but only in case the other means recommended are inapplicable. Articles of leather, such as trunks, boots, etc., should be either destroyed or washed several times with one of the weak disinfecting solutions.

III. Vomited matters and the dejections of the sick should be mixed with one of the strong disinfecting solutions, in quantity equal to the amount of material to be disinfected. Linen, clothing, bedding, etc., recently soiled by the dejections of the sick, and which cannot be immediately subjected to the action of steam, should be at once immersed in one of the strong disinfecting solutions, and left for four hours.

IV. The dead should be enveloped in a sheet saturated with one of the strong disinfecting solutions, without previous washing, and at once placed in a coffin.

V. Disinfection of merchandise and of mails is unnecessary. Steam under pressure is the only reliable agent for the disinfection of rags.

VI. When cases of cholera occur upon a vessel at sea, the locality where the case occurs should be disinfected. The floors and walls of the cabin, or other locality, should be washed at least twice with one of the weak disinfecting solutions, and then exposed freely to fresh air. In the case of objects of considerable value, which have not been in immediate contact with the sick and which would be seriously injured by a rigorous disinfection, the physician on board may determine what measures are necessary to protect the sanitary interests of the vessel. The bilge-water should be pumped out and replaced by sea-water, at least twice at each disinfection of a vessel. The closets should be well washed with one of the strong disinfecting solution at least twice a day.

VII. If the drinking water is open to suspicion, it should be boiled before it is used, and the boiling should be repeated, if it is not used within twenty-four hours. All suspected food should be destroyed, or at least recently cooked.

VIII. Hospitals should be disinfected by washing the floors and walls with one of the weak disinfecting solutions, by a subsequent free ventilation and cleansing, and finally by repainting. The wards to be disinfected should, as far as possible, be isolated from those in use. The latrines should be disinfected at least twice a day by pouring into them the strong disinfecting solutions in quantity at least equal to the amount of the dejections received since the last disinfection.

IX. The clothing worn by physicians and attendants should remain in the hospital, and should be regularly disinfected. Physicians and attendants should use the weak disinfecting solution for washing their hands, etc.

METALLIC POISONING FROM CANNED FOODS.—The following is the concluding part of a paper entitled, " Metallic Poisoning from Canned Foods, with a Report of Six Cases of Poisoning from Canned Tomatoes," by Dr. F. F. Doggett, published in the *Boston Med. and Surg. Journal.*

In general, the possible sources of danger to the consumer of canned foods are to be found in the structure of the can, the solder, or in the contents *per se.* As to poisoning from decomposed animal canned food, many cases have been reported. For instance, in the *British Medical Journal* of November 1, 1879, there is reported the account of the poisoning of twenty-one persons from eating "Chicago corned beef." The symptoms were those of an irritant poison, even proceeding to collapse, though all the cases recovered. Usually the unpalatableness of the contents is enough to warn the consumer not to partake. The bad condition of the contents can often be foretold before opening the can; as, if air has been admitted at the time of soldering, or from improper methods of preparation, or original unsound contents, decomposition will take place and fermentative gases be formed within the can, together with the acids; this will cause the ends of the can to bulge outward. In " the trade " such cans are called " swells." Such cans should be rejected. A recent writer on the subject has said that a bad can will have rattling contents on being shaken. I think this proves nothing as to the badness of a can; for, in case of between thirty and forty cans of tomatoes, the contents were found perfectly good on eating; though before opening, the contents of the cans rattled on shaking.

Among the cheaper grades of canned tomatoes I have occasionally found that the contents will curdle milk, though it may taste and look as usual. I think in such cases that some fermentation has taken place, and in the process a vegetable acid has been found to curdle the casein of the milk. Ordinarily the juice of the tomatoes mixes with the milk without curdling it. Accordingly, if a little of the juice of a suspected can of tomatoes will curdle an equal quantity of sweet milk, one would be justified in assuming the presence of some vegetable acid in the tomatoes. It is only a question of amount of acid, and length of time it remains in contact with the surface of the can, that will determine the presence of a lead salt in the contents of the can. The contents may have a metallic or astringent taste, as in the above-reported cases, and then it should be rejected.

As to the solder, there is danger of corrosive poisoning from presence of tin, or zinc, or lead, or all. For it is now, or has been, a custom, within a short time, to use a flux of tin and zinc chlorides, and with hydrochlorides, and with hydrochloric acid to solder on the head of the can, This is so poisonous that a small quantity in the can would do much damage. The ordinary way of soldering is with a solder of tin and lead with rosin, which last in melting leaves its trace around the head and at the side of the can. Hence, reject a can not showing this, as then the presumption is that the poisonous solder has been used. A small piece of the tin and lead solder may fall into the can, but as yet has never been shown to have done harm. However, if a large surface of solder is left on the inside of the can by the solderer, and if acids were formed in the can, there would be a good chance for lead salts to be formed ; for ordinary plumber's solder contains seventy-five per cent. of lead—a much larger amount than would be found in the turning of the can.

The acids likely to be formed by fermentation or decomposition of the contents of the can are, from vegetables and fruits, acetic acid, malic, citric, and tartaric ; from meats or fish, mostly butyric acid.

As solder is somewhat expensive in quantities, and an unskilful solderer will use more than a skilful one, solder in sticks is served to each man. We may see from this that some cans would have more solder on the inside than others. Further than this, to solder quickly and with an economy of solder, with rosin as a flux, requires a skilful workman ; whereas the beginner uses much solder, and at first perhaps hydrochloric acid instead of rosin as a flux. The acid, in contact with the solder, forms the very poisonous stannous chloride which, in the hands of the beginner, is all the more likely to be used carelessly and get into the contents of the can. The manager of a canning-factory makes such a distinction between a good and bad solderer that each man is often made to put his mark on each can made, so that it may afterward be identified.

As to the can itself, if pure tin alone were used, the formation of a poisonous stannous compound sufficient to produce marked symptoms, even if eaten for a long time, would not be possible, as has been absolutely demonstrated. Some inocuous stannous hydrate would always be present, however.

On the other hand, if lead in any quantity is used as an alloy with the tin, then is lead-poisoning likely to follow, provided enough is eaten and over a considerable time. Especially is this likely to occur in goods kept for a long time, or when the contents are left in such a defective can exposed to the air, or when such cans and their old contents have been "reprocessed." These last can be detected, as there are then to be seen two soldered-up holes instead of one in the head of the can ; the sound cans have but one soldered-up hole. The contents should never be allowed to stand long in the can after opening, especially in warm weather. The can should contain on the label the name of the manufacturer and place of putting up, and be labeled "Standard." If a can has rust about the cap, air has very likely got in, and the contents have decomposed and formed possible poisonous compounds with the wall of can or solder ; hence, reject such cans.

These points, in connection with the symptoms in any suspected case of poisoning from canned foods, will enable the practitioner to make a diagnosis. From consideration of the above facts he will be able to give his patients a ust estimate of the dangers of poisoning from canned food, showing that such danger is small if the above precautions are attended to. Considering the vicissitudes that canned goods must pass through under the hands of the can-makers, the solderers, and the tradesmen, with the chance of being "reprocessed," or kept for years before reaching the consumer, it is surprising that so few cases of poisoning therefrom have been reported.

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme............	equal to	1-65th	grain.
1 centigramme............	"	1-6th	"
1 decigramme............	"	1½	grains.
1 gramme............	"	15	"
1 decagramme............	"	150	"
1 hectogramme............	"	1,465	"
1 kilogramme............	"	14,720	"
1 myriagramme..........	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre............	equal to	1-1,000th	metre.
1 centimetre............	"	1-100th	"
1 decimetre............	"	1-10th	"
1 metre............	"	39 37-100th	inches.
1 decametre............	"	10	metres.
1 hectometre............	"	100	"
1 kilometre............	"	1,000	"
1 myriametre............	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 millitre.......	equal to	15	troy grains	water.
1 centilitre.......	"	150	"	"
1 decilitre.......	"	1,500	"	"
1 litre............	"	(1 qt.) 15,000	"	"
1 decalitre.......	"	150,000	"	"
1 hectolitre......	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.....	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.......		56 96-100ths grains.
1 fl. oz. " "		455 69-100ths "
1 fl. gallon " "		231 cubic inches.
1 fl. pint " "		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

A CASE OF POISONING BY DATURA-STRAMONIUM. By C. O. MATHEWS, M. D., Daingerfield, Texas.

In June, 1884, I was asked to attend a Mr. W's child, aged three years. The messenger urged all possible haste, saying the child was "wild with fever and had erysipelas all over." I found the child apparently in a state of intoxication. At one time its countenance would indicate great distress; it would cry out: "Mama, mama," in the most piteous wails; at another it would laugh, and its countenance would indicate most ecstatic delight. The whole surface had a scarlet hue, and the face was somewhat bloated. There was fixation and inordinate dilation of the pupils, with injection of the conjunctivæ. The respiration and pulse rate were 36 and 144 per minute, respectively. The skin was hot, and I judged the temperature to be about 102° (F.). The violent delirium precluded its thermometrical measurement; the spells of apparent delight and distress came on alternately, and during the latter there was at first nausea and retching. The attack, I was told, had developed rather suddenly about an hour and a half prior to my arrival. The child's general appearance, as well as its history, indicated robust health. If the child had eaten anything out of the usual line of diet that evening, it was not known to the parents, nor was there, within their knowledge, any medicines or medicine bottles accessible to the child. Upon further inquiry I learned that the child habitually put in its mouth and chewed up playthings and like articles, and that the Jamestown weed grew within the limits of the child's play-ground. This I considered a confirmation of what the symptoms and history had led me to suspect, viz.: That the child was poisoned by a mydriatic, stramonium most probably, because the most attainable. Prompt emesis was produced by cupri sulphas grs. iij., dissolved in a dessert-spoonful of water. In the vomited matter were several fragments of stramonium leaves. One drop of croton oil was then given, which was retained, but it is noteworthy that catharsis did not result for ten hours, owing possibly to the large quantity of opium afterwards given. Tinct. opii camph. was given in thirty minim doses for six consecutive hours, with the effect of gradually decreasing the frequence of the respiratory and circulatory movements, and after six hours of banishing the most obstinate insomnia. Twenty-four hours later the patient had recovered, approximately, though the pupils were still markedly dilated. By this time the parents had found among the patient's playthings two half-grown burs of the Jamestown weed, each half devoured evidently by the child, since the teeth-prints were well marked in the rind of the burs. I judged that the child ate as much as one-half of the half-grown burs.—*Texas Courier Record.*

WARBURG'S TINCTURE.—In the discussion of the treatment of hemorrhagic malarial fever, which recently took place in New Orleans, there seemed to be a widespread belief among those familiar with the disease that quinine, as ordinarily given, is of little value. It is a very curious evidence of conservatism that Warburg's tincture, which has been used with such extraordinary results in India in the treatment of malarial fevers of a malignant type, cannot obtain a fair trial in our Southern States. The testimony to its value has been very extraordinary, and we notice in the twenty-seventh issue of the Report of the China Imperial Maritime Customs, just received, that Dr. B. S. Ringer, of Amoy, reports a case of intermittent fever contracted at Hong-Kong, in which quinine and salicylate of sodium had been repeatedly tried without effect, and arsenic and aloes had also been essayed in vain, but in which the disease rapidly yielded to the administration of two drachms of the Warburg's tincture three times a day. The case had continued for many weeks, but under the influence of the Warburg's tincture the temperature fell three degrees in the course of a few days, and on the tenth day after use a normal temperature was recorded for the first time for thirty-two days. It will be noted that the method in which Dr. Ringer employed the Warburg's tincture is different from that commonly practiced. As this tincture contains quinine, it has been alleged that the remedy is only quinine concealed in a farrago of inert substances for the purposes of mystification. The importance of the subject justifies us in noting at length the words of Dr. B. S. Ringer in answer to this: "I have treated remittent fevers of every degree of severity, contracted in the jungles of the Deccan and Mysore, at the base of mountain ranges in India, on the Coromandel coast, in the pestilential highlands of the northern division of the Madras Presidency, in the malarial rivers of China, and in men brought to this (Netley) hospital from the swamps of the Gold Coast, and I affirm that I have never seen quinine, when given alone, act in the manner characteristic of this tincture; and although I yield to no one in my high opinion of the inestimable value of quinine, I have never seen a single dose of it given alone, to the extent of 9½ grains, suffice to arrest an exacerbation of remittent fever, much less prevent its recurrence, while nothing is more common than to see the same quantity of the alkaloid in Warburg's tincture bring about both results."

Dr. Ringer states that the tincture has usually been administered by him in the following manner: "One-half ounce (half of a bottle) is given alone, without dilution, after the bowels have been evacuated by any convenient purgative, all drink being withheld. In three hours the other half of the bottle is administered in the same way. Soon afterward, particularly in hot climates, profuse but seldom exhausting perspiration is produced. This has a strong aromatic odor, which I have often detected about the patient and his room the following day. With this there is a rapid decline of temperature, immediate abatement of frontal headache—in a word, complete defervescence, and it seldom happens that a second bottle is required; if so, the dose must be repeated as above. In very adynamic cases, if the sweating threatens to prove exhausting, nourishment in the shape of beef-tea, with the addition of Liebig's extract, and some wine or brandy of good quality, may be required."

Owing to the complexity of the original formula of Warburg's tincture, and the expensiveness and apparent inertness of certain of the ingredients, there is a strong temptation on the part of manufacturers to depart from said formula, but it must be remembered that we do not know at all to which of its ingredients this polypharmaceutical owes its virtue. It is, therefore, entirely possible in any case that a drug left out is the important one. No practitioner has a right to consider that he has made a fair trial of the Warburg's tincture unless it has been prepared by a pharmacist of known reputation, whose word has been given that he has in all respects conformed to the original instructions of Dr. Warburg.—*Therapeutic Gazette.*

THE USE OF CARBOLIC ACID IN SCARLET FEVER.—At a recent meeting of the Liverpool Medical Institution, in a paper read on the use of carbolic acid in scarlet fever, Dr. Wiglesworth claimed that carbolic acid was capable of putting a complete period upon those germs, whatever they might be, that gave rise to scarlet fever. Two years ago he gave the results of the carbolic acid treatment of about one hundred cases of scarlet fever. These results were: no deaths, no secondary fevers, two cases of albuminuria, no purulent nasal or aural discharges, no ophthalmia, no permanently enlarged or suppurating cervical glands. The patients as a rule appeared in their usual health at the end of ten or twelve days. His subsequent experience had amply confirmed these results, and he now felt justified in answering the question, Is carbolic acid a specific in scarlet fever? in the affirmative, provided the case was seen at the outset and the treatment was carried out in its integrity. He had lately had the subject of its prophylactic employment brought under his notice. On the outbreak of the disease in a family, those not attacked were isolated (in the same house), the usual precautions against infection were taken, and in addition the healthy children were given nine grains of carbolic acid three times a day. The results were eminently satisfactory. A second outbreak was kept within bounds in the same way. Other proofs of its efficacy as a prophylactic were narrated. In adults he had given at the commencement of the disease three grains of carbolic acid every two hours. In one case 6¾ grains were given by mistake every four hours. Each dose was followed by vomiting of mucus and diarrhœa. On discovering the error the dose was reduced, and the case subsequently did well. The dose he usually gave now was three grains to young children, and four grains to adults, given with sp.

chloroformi and tincture of orange. He invariably gave it every two hours, night and day, for the first few days, and longer if the case was severe, and then a smaller dose and less frequently until the patient was well. In the case of a patient who had taken seventy-two grains, he had the urine analyzed by Mr. Abraham, who found only .221 grain in ten ounces of urine.—*Therapeutic Gazette.*

A NEW METHOD OF GIVING A BATH IN TYPHOID FEVER. By H. C. WOOD, M.D. As is well known, the great difficulty in the use of the bath in fevers is the trouble which is involved in moving the patient in and out of the bathtub. The following simple device will in great part remedy this trouble and also save the necessity of providing a portable bathtub. The canvas of an ordinary bedcot is to be made three or four inches wider than it is ordinarily arranged, and a broad board nailed at each end so as to hold the cot permanently open and project above it several inches in the form of a head or foot board. This cot is then arranged alongside of the bed of the patient so as to be on a level with the bed and at same time firm. Over it is spread an india rubber cloth sufficiently large to cover it entirely and to fall above and below over the head and footboard. The patient, wrapped in a sheet, is then slipped on to the cot; of course the canvas sags down, and when water is poured over the sheet the man lies half immersed in a pool. If the attendant is provided with two tubs, one containing water and one empty, and also with a large bathing-sponge, the water in this pool heated by the body can be removed by means of the sponge, and fresh cold water soused over the body enveloped in the sheet. In this way the water lying continually between the sheet and the body as well as saturating the sheet so envelops the person that the effect of a cold bath can be achieved, and I have seen very rapid reduction of obstinate high temperatures. If the bed upon which the patient lies be a very wide one, instead of a cot being used the mattress can be so arranged on one side as to sag down sufficiently to form a hollow for the pool, and in this way the bath be given.

I notice that Stephan, of St. Petersburg, affirms that the application of ice-bags over the super-clavicular regions is sufficient to control the temperature in fever, owing to the fact that the cold is brought into close contact with much of the blood of the body by the large superficial veins of the neck. I have had no experience, however, of this method of reducing temperature, but it is worthy of a trial; especially as it seems to be safer to reduce temperature in low fever by external cold than by our present known depressant antipyretic drugs.—*Therapeutic Gazette.*

WYETH'S HYPODERMIC TABLETS.—Hypodermic medication has now assumed such an important position that greater facilities for the more ready administration of drugs in this way have become a necessity to the practitioner, and it would be difficult to imagine how this demand could be more satisfactorily met than by the soluble compressed tablets manufactured by Messrs. John Wyeth & Bro., of Philadelphia. At present they are employing thirty-seven formulæ, which embrace all those now in general request by the profession, and they represent the following agents in various proportions and combinations: morphia, atropia and strychnia sulphates, apmorphia, and pilocarpin muriate, aconitia, digitalin, bichloride of mercury, and bicarbonate of morphia. The advantages claimed for these hypodermic tablets are, absolute accuracy of dose, ready and entire solubility, and perfect preservation of the drug; and they have already been sufficiently long in use to leave little doubt that these claims are well founded.

THE TREATMENT OF HEMORRHOIDS.—The *Therapeutic Gazette* highly recommends the local use of chlorate of potassium for the milder class of cases. Half an ounce to an ounce of the saturated solution of the drug, to which has been added from five to ten drops of laudanum, is to be thrown into the rectum morning and evening, and retained. Of course, the usual precautions in regard to keeping the bowels free are to be taken.

THE VALUE OF CASCARA SAGRADA IN CONSTIPATION.—At a recent meeting of the Staffordshire Branch of the British Medical Association, Dr. Reid read a paper upon the value of this drug, based on an analysis of thirty-three cases, of which he had taken careful notes. He found, 1, that the result was all that could be desired in twenty-seven cases of obstinate and habitual constipation, complicated in many cases by various forms of dyspepsia, and in many people usually of sedentary habits, more especially females; 2, that the effect was most beneficial in three cases of hemorrhoids; 3, that the drug was of no service, even in very large doses, in one case of obstinate constipation, although it did not cause pain; 4, that it had to be discontinued in two cases on account of it causing pain and sickness. The form of drug used was the fluid extract. The conclusions arrived at were as follows: 1. Cascara sagrada was a most useful remedy, both regarding its immediate effects and after-results in obstinate and chronic cases of constipation. 2. It was better to prescribe it in continuous small doses rather than in occasional large ones. 3. Cases were met with in which, even in large doses—at any rate, in the form of the fluid extract—the drug had not been of service. 4. No rule could be laid down by which one could ascertain previously whether the drug would suit or not; but, when pain was produced, in all probability it was owing to too large a dose being given. 5. It was of great service in cases of hemorrhoids when other aperients had failed.—*British Medical Journal.*

COCAINE IN HAY FEVER.—The therapeutical uses of cocaine are so numerous that the value of this wonderful remedy seems only beginning to be appreciated. Almost daily we hear of some disease or combination of symptoms in which it has been tried for the first time and has answered beyond expectation. It appears strange that so intractable a complaint as hay-fever should be amenable to its influence, and yet such is the case. The account given by Mr. Watson, of the Westminster Hospital, of his sufferings and subsequent cure by tabloids of cocaine, is too circumstantial to admit of doubt, even had we not received confirmatory evidence from many sources. It has been objected on theoretical grounds that cocaine must of necessity be inoperative, or, at all events, of comparatively little use, in those cases in which symptoms of an asthmatic type prevail. Curiously enough, however, it has been shown that cocaine, when applied to the mucous membrane of the nostrils, has the power of allaying even this spasm. The observation, too, is not new; for many months ago Dr. Bosworth, Professor of Laryngology at Bellevue Hospital Medical College, published a detailed account of a case of spasmodic asthma completely cured by cocaine. He pointed out at the time that many inveterate cases of asthma are dependent on, or at all events associated with, nasal disorders, the relief of which is promptly followed by an abatement of all the distressing symptoms. If this principle of associated treatment should be carried on in its integrity, it will be difficult to assign the limits of its sphere of action. —*Lancet.*

Dr. Wm. S. Page writes to the *British Medical Journal:* In the *Journal* recently, in speaking of the relief afforded by cocaine, in acute coryza, I suggested the probability of its efficacy in hay fever. During the last few days, I have had the opportunity of testing it in my own case, and the relief obtained has more than answered my expectations. On this account I am induced to record the result, hoping that others will give it a fair trial. I have only, as yet, tried it in one other case besides my own, but there it answered equally well.

To alleviate the itching and burning of the eyelids (always an early and prominent symptom), I use a two per cent. solution, and apply it, by means of a camel's hair brush or the tip of the finger, to the margins of the lids, dabbing a little into the eye at the inner canthus. If too much be not used, there is no inconvenience from dilatation of the pupil; the remedy is thus applied as often as the symptoms present themselves. For the relief of the nasal symptoms I have used a four per cent. solution, introducing a couple of drops into each nostril by means of an eye-dropper, holding the head well back, and sniffing it up. It is well to have only a small quantity (for example, ʒj) of these solutions made up at once, and the little bottles are conveniently carried about for use at any time. The use of goggles to protect the eyes from glare and dust is also most important, and they should be worn regularly, whenever the light is bright, from the commencement of the disease until the susceptibility has passed away.

Menthol as a Substitute for Cocaine.—Dr. Albert Rosenberg, of Berlin, has found in Menthol (*Berl. Klin. Woch.*, No. 28) in etherial or alcoholic solution (20 to 30 per cent.), a useful substitute for the expensive cocaine, in cases wher elocal anæsthesia of mucous membranes—e. g., of nose, pharynx, and larynx—is required. The effect of menthol is not so lasting as that of cocaine, but it appears to have somewhat of a cumulative action; for, when repeated, even after a long interval, the latter application produced a longer period of anæsthesia than the earlier.—*Lancet.*

To Remove Freckles.—The physician is frequently asked by lady patients for something that will remove "moth" and freckles. A writer in the *Pharm. Zeitung* says that a wash consisting of equal parts of lactic acid and glycerine will do the work, and is harmless when applied to the skin.—*Medical and Surgical Reporter.*

Application for Sore Nipples.—Groussin recommends for application to sore nipples in nursing women an ointment of equal parts of white sugar, oxide of zinc, glycerine, and gum arabic.—*New York Medical Journal.*

A Remedy for Gout.—The solution of the biniodide of mercury in potassic iodide, known as the Edinburgh mixture, is of great service in the treatment of gout. Dr. C. R. Illingworth (*Brit. Med. Jour.*, May 30, 1885) prescribes it as follows:

Sol. hydrarg. bichlorid. (B. P.), ʒvi;
Potass. iodid., ʒss;
Inf. quassiæ ad., ℥vi. M.
S.—Teaspoonful every three hours.

If there is much pain, he adds 2-minim doses of the solution of morphine, or 5-grain doses of chloral and bromide of potassium with simple syrup. Of course, when congestion or actual inflammation of the kidney or other internal organs exists, this prescription should not be used.—*Therapeutic Gazette.*

Sedative Cough Mixture.—Dr. H. C. Wood regards the following as the most efficient sedative cough mixture that he has ever used:

R	Potassi citratis,	1 dr.
	Succi limonis,	2 ozs.
	Syrup. ipecac.,	½ oz.
	Syrup. simplicis. q. s., ad,	6 ozs.

M. Sig.—A tablespoonful from four to six times a day.

When there is much cough or irritability of the bowels he adds paregoric in suitable quantity.—*Med. Age.*

The Treatment of Acute Earache by the Injection of Carbolized Glycerin.—Mr. Bendelack Hewetson (*Lancet*, April 18, 1885) has found that the injection of a small quantity of carbolized glycerin into the ear in cases of acute earache almost instantly removes the acute pain. He reports a case of a child, five years of age, who was suffering from acute pain from a developing inflammation of the middle ear which was entirely relieved in a few minutes by the use of this application. He states that has repeated it a number of times both in children and in adults, and that in whatever stage it is applied for earache it invariably stops the pain. If the earache returns, as it does sometimes where a perforation has taken place and has again closed, the application of the glycerin and the carbolic acid gives great relief and in some cases stops the tendency to recurrence.

For Constipation in Young Children.—Dr. Poulain, in the *British Medical Journal*, extols the use of a tablespooful of fine bran night and morning in a cup of bread and milk. The bran is warmed in the milk and then poured on the bread.—*Therapeutic Gazette.*

BIOGRAPHY.

John Staige Davis, M.D.

This widely known and beloved Professor of Anatomy and Materia Medica and Therapeutics of the University of Virginia, died at his home, at the University, July 17, 1885. He was born in Albemarle County, Va., October 1, 1824, and hence was in his sixty-first year.

Dr. Davis's father was Professor of Law and Chairman of the Faculty for several years at the University of Virginia until he was killed by one of the students in 1840, while attempting to check a marauding party. Dr. Davis himself graduated academically at the University, and in 1841 received from the same institution his degree of Doctor of Medicine. In 1842 he began the practice of medicine in Jefferson County, (now West) Virginia, but removed to Charlottesville, Va., in 1845, when he was made Demonstrator of Anatomy at the University of Virginia. About 1850 he was made Professor of Anatomy and of Materia Medica and Therapeutics in that institution, which position he held till his death.

He was exceedingly accurate in all of his information, and as an instructor was one of the very best we ever knew. His demonstrations were always precise, and his mode of imparting information very interesting, so that it was a pleasure to study under his tuition. He was a cautious practitioner, excelling in diagnosis and in the principles which should govern the application of therapeutical knowledge. He was a modest man, and as such was constantly declining the acceptance of honors that were offered him. He was a true friend—permitting no removable obstacle to prevent his doing any favor in his power. He was a just man—allowing no intimacy of acquaintance to lead him to bestow an unmerited compliment, nor permitting any criticisms by others to warp his judgment as to the worth of those with whom he was not intimately acquainted. He was an earnest worker in every field of usefulness in which he was placed.

As a Fellow of the Medical Society of Virginia, he was alive to its every interest and good work, giving it help and counsel whenever opportunity offered. He was one of the original Vice-Presidents of the Society (1870–71), but never allowed the Society to bestow upon him a greater honor. Above all, he was a Christian gentleman, which principle of life he made to shine out in every circle in which he was thrown, giving him immense influence in the profession and with the people. He will long live in the memory and affections of thousands who knew him, either at the University or as Resident Physician during the summer months at the Rockbridge Alum Springs.

Dr. Davis was stricken with partial paralysis some nine years ago. Afterwards, he had a slighter stroke. The third and fatal stroke occurred about two months ago, rendering him completely hemiplegic. Notwithstanding the constant attention of excellent physicians and competent and affectionate nurses, he gradually sank to rest on the evening of July 17, 1885, surrounded by his family and friends.

In 1847 Dr. Davis married Miss Lucy Landon Blackford, who died in 1859; in 1865 he was again married, his bride then being Miss Caroline K. Hill, who survives him.—*Virginia Medical Monthly.*

WILLIAM T. WRAGG, M.D.

The custom of commemorating in some form the death of one who has impressed his fellows by his virtues or his actions is of very ancient date, and its continuance at present is not only evidence of its propriety, but of its filling a want that the mind of every person admits to exist. In reviewing the life of him who so lately has been taken from amongst us, one cannot fail to be reminded that death has removed from our ranks a faithful, efficient and esteemed brother; one who loved the profession, sought its advancement, and respected all its usages.

On the 30th of May, 1885, Dr. William T. Wragg, one of the oldest and most esteemed physicians of the State of South Carolina, died at his residence in the city of Charleston, S. C. He was born near Georgetown, S. C., removed with his parents, Major and Mrs. Samuel Wragg, to Charleston in 1819. He entered the South Carolina College, where he graduated in 1827. He chose the medical profession as his pursuit through life, entered the office of Dr. J. M. Campbell as a student, and attended the "Medical College of the State of South Carolina" for three years, graduating at that institution in March, 1830. In the following May he went to Paris with Dr. J. E. Holbrook, professor of anatomy in this college, where he pursued his medical and surgical studies, and after visiting all the hospitals, made the wards of the Hôtel Dieu his constant care: every day found him in attendance at the visits and clinique of the greatest surgeon and diagnostician of the age, Dupuytren. Here also lectured at that time the great physiologist and vivisector, Magendie. A few weeks after his arrival the famous revolution of July, 1830, broke out, and hundreds of men, women, and children filled the wards of Hôtel Dieu with every kind of wound—gunshot, sabre, bayonet, cannon-ball—and wounds from stones, and other missiles. Here Dr. Wragg learned those lessons which gave him success in his practice in after years.

Soon after his return home, Dr. Wragg entered upon the practice of his profession, and continued it successfully to the time of his death. In 1847 Dr. Wragg was made treasurer of the "Roper Hospital Fund," a fund bequeathed to the Medical Society of South Carolina by Mr. Thomas Roper with which to build a hospital. His administration of this office shows how careful he was of trust reposed in him, and how his judicious management has enabled the trustees to execute the testator's benevolent intentions. The fund was under Dr. Wragg's management from 1847 to the day of his death—thirty-seven years—and notwithstanding unavoidable losses during the late war, is at the present time nearly double the amount of the original sum.

He was an able and constant contributor to the *Charleston Medical Journal.* He was conspicuous for his erudition and professional acquirements, while his purity and devotion of character, his urbanity and professional courtesy, were known and appreciated by all. Dr. Wragg was held in high esteem by the medical profession, and at a meeting of the physicians of the city of Charleston, on account of his death, after eloquent remarks by some of his most intimate friends the following resolutions were unanimously adopted:

Resolved, That in the death of our brother and ex-President, Dr. Wm. T. Wragg, this society has sustained the loss of an eminent and esteemed member.

Resolved, That our sympathies are extended to his family in their great bereavement.

Resolved, That in consideration of his faithful services as custodian of the "Roper Fund" for thirty-seven years, the society erect a tablet in this hospital to his memory.

Resolved, That a copy of these proceedings be transmitted to the family of the deceased and to the daily newspapers of the city.—*Journal of the American Medical Association.*

ORIGINAL CORRESPONDENCE.

Letter from Paris.

15 Rue Caumartin,
Paris, July 20, 1885.

To the Editor of Gaillard's Medical Journal:

Dear Sir: In continuation of the history of cholera inoculation, I translate from the *Figaro* an article from the pen of one of its regular medical contributors.

"The journals have announced the arrival of Dr. Brouardel from Spain, whither he had gone to investigate Dr. Ferran's new process of inoculation for the prevention of cholera, and we hope in a few days to be able to inform the public of the true cause of his sudden return. In the meantime we will give a résumé of the experiences of another physician who has recently visited the plague-stricken district. Dr. Gibier returned a few days since to Paris, having visited Valence, Alcera, and other infected towns, under an order from the Minister of the Marine, and it is his courtesy that enables us to give to our readers an account of what is transpiring in those localities. Having been most kindly received by Dr. Ferran, he witnessed numerous inoculations by him and his assistants. Dr. Ferran is quite a young man, between thirty-six and thirty-eight years of age, and seems thoroughly convinced of the efficacy of his process. He has received permission from the Government to visit Madrid, which he expects to do shortly for the purpose of continuing his experiments. Before this alleged discovery he was but an obscure country doctor; now he is the most widely known man in his profession. His fame extends daily, and should the enthusiasm which he has inspired continue, he will soon find himself possessed of a colossal fortune. He charges two dollars and a half for each inoculation, while an immense crowd daily besieges his door, each awaiting his turn to submit to the process, the fee being invariably paid in advance. Wealthy persons generally pay more than the sum above mentioned, and it is only in cases of the most abject poverty—which must be clearly established—that the inoculation is done gratuitously. The number of paying patients averages six hundred daily—from which data it is not difficult to calculate the enormous sum that Dr. Ferran has already realized. Should the so-called discovery prove worthless, the doctor can at least console himself by counting over the millions which it has put in his pocket.

"The mode of operation is as follows: By means of a Prava's syringe he injects subcutaneously into the lower part of the upper arm a cubic *centimetre* of a liquid the precise composition of which is still a mystery—though Dr. Gibier asserts that the specimens which he examined actually contained the *bacillus en vergule* of Koch. In this connection I unhesitatingly express the opinion that, despite all assertions to the contrary, these *microbes* are the invariable concomitants and essential characteristics of Asiatic cholera. (?) It is true that some have pretended to find them in connection with other diseases, and even in the waters of sewers, but the fact is incontestable that these special *bacilli* are found *only* in the bodies of cholera patients. (?) While Dr. Gibier admits that these *microbes* exist in the fluid which Ferran employs, he says that its composition is complex, and its mode of preparation a mystery. The Spaniard obstinately refused to reveal this secret, and only admitted that bile entered into its composition. This refusal astonished Dr. Gibier not a little, and he regards it as a decided departure from the rules of conduct which the world of science has subscribed to and is governed by. I can but remark in this connection that this reticence upon Dr. Ferran's part is in striking contrast with the liberal conduct which has always distinguished the medical profession, and is of all things the most calculated to excite suspicion in the public mind in regard to the real value of the alleged discovery and the reliability of its author. It smacks of humbuggery, and is nearer allied to the trickery of an *empiric* than to the ingenuousness of a *savant.*

"The immediate effects of this inoculation do not differ materially from those produced by the subcutaneous injection of other irritating liquids. It is followed by redness, increased heat, and some swelling at the point of introduction, and sometimes by symptoms affecting the system at large, such as giddiness, nervousness, and slight fever. Diarrhœa, which has been said to be of frequent occurrence, is rarely produced—is a most unusual result. Abscesses are sometimes produced, but they are due as a general rule to the careless manner in which the operation is performed, for about as much attention is paid to the inoculated patients as to vaccinated cows.

"Dr. Gibier is uncertain whether the effects produced are due to the absorption of the *microbes* or to the local effect of the liquid itself. He suggested a method of determining this question—which consists in an analysis of the effects produced by the liquid and by other fluids respectively—and invited Dr. Ferran to assist in the experiment, but the Spaniard rejected the proposition, declaring it to be his intention to test the matter at another time for himself.

"Dr. Gibier convinced himself that after the lapse of twelve hours the patient's blood contained no cholera *microbes.* He is positive, even, that they do not enter the circulation at all, but simply remain where they have been lodged by the syringe of the operator, beneath the integument. He, therefore, cannot comprehend how the inoculation either mitigates the symptoms of those already attacked by cholera or secures immunity from it—which embraces the whole question at issue.

"The same person may have repeated attacks of cholera, a fact of which many French physicians seem to be ignorant, though such cases have been reported by English and American observers. How then does the so-called virus of Dr. Ferran control a disease which presents such singular features—which resembles a veritable thunderstorm in the economy, and yet recovery from which is possible even after a protracted period of collapse and rigidity? The Spaniard would combat with only an *impotent* and unique remedy one of the most *violent* of maladies having *multiple* phases. He seeks to destroy a hydra-headed giant by a single decapitation with a straw. The idea *per se* is a contradiction and an absurdity. He might as well attempt to inoculate against an attack of bronchitis. One of his compatriots—himself a distinguished physician —said recently; 'I contest the efficacy of these inoculations against cholera. I would as soon expect to cure sterility by means of a vaccination.'

"It is impossible to rely upon statistics in this connection. They are unreliable in any country, but especially so in Spain. A single fact will illustrate my meaning. Alcira, where three hundred and seventy deaths from cholera occurred from the first of May to the first of June, and whence came the most favorable reports concerning Ferran's operations, is a town of 20,000 inhabitants. The municipal registration shows, however, only a population of 16,000, and it will remain at this figure for some time to come, for the reason that the smaller the number of inhabitants the less is the amount of taxes it has to pay the Government. This gives some idea of the reliance to be placed upon statistics in Spain.

"Another circumstance must be taken into account in determining the efficacy of these inoculations. Most of Ferran's patients belong to the upper and middle class of society, those who, in the nature of things, are less exposed to the epidemic influence, and more likely to escape its consequences.

"During his visit to Spain, Dr. Gibier made a large number of autopsies, and, accompanied by the Belgian delegate, visited more than four hundred cholera patients. They arrived at the same conclusions respecting the disease which they encountered, viz.: that it is beyond doubt genuine Asiatic cholera, the identical disease which raged in France last year, and with which he had a large experience. This completely negatives the assertion of those who pretend that the disease which exists in Valence is not genuine cholera, but simply an epidemic of pernicious fever.

"It will be remembered that when the disease first appeared in Toulon last year it was several weeks before its true nature could be determined. Some contended that it was simply *cholera-nostras*, but it was eventually recognized as genuine *Asiatic cholera*. Should it again invade France, there will be no difficulty in recognizing it, no disputes among the doctors as to its true character. We know but too well the name and nature of the dreaded guest which is knocking at our doors, glutted with victims already, but seeking fresh ones at our hearth-stones.

"It has always been a matter of astonishment that we have not followed the example of the German Government, which, immediately upon the return of Koch to Berlin, established a class of physicians to be instructed in all that relates to cholera, so that they might be prepared for its arrival, and thoroughly equipped to meet and combat it.

"The hospitals in Spain are far from being as well organized and provided as ours. The facilities for observation and research which they possess are meagre in the extreme. Dr. Gibier and his assistants found themselves hampered in all regards, and were frequently compelled to pursue their task in the open air, with only trees for shelter and planks in lieu of tables. In the wards, they found only miserable cots, upon which the patients were extended without covering, oppressed by pestilential odors, and surrounded by a cloud of flies. How different a lot from that of the patients in our own clean, comfortable, and salubrious hospitals! But the ever-faithful Sisters of Charity were there to compensate, as far as possible, by their devoted attention and tender sympathy for the more substantial comforts of which the sufferers felt so greatly the need· Spain, in this regard, still seems asleep, wrapped in an impenetrable apathy whose watchword is always *à demain.*

"A curious incident occurred to the doctor on his homeward journey. At Tortosa all the passengers were required to leave the train, and to remain uncovered in the damp and darkness until the cars had been fumigated. The agent employed for this purpose was the vapor of sulphurous acid, which was liberally diffused throughout the compartments for the purpose of destroying any vagrant *microbes* that might be *en route* for France. Dr. Gibier had suspended from the roof of his compartment several flacons filled with specimens of the *bacilli*, which he had collected in Spain, and these were exposed to the fumigating process with the rest. To the doctor's great relief, however, he found on examination that *his microbes* were intact, thus furnishing conclusive proof of their tenacity to life, and of the inefficiency of the preventive measures adopted by the authorities. 'My *microbes*,' remarked the facetious Doctor, 'were more fortunate than myself, for *I* caught a severe cold, while *they* present a perfectly healthy appearance.' He, in fact, is looking very badly, and his altered appearance shows that it is a dangerous thing to thus expose oneself in the cause of science. The question naturally arises: Is this alleged discovery worthy of consideration from a scientific point of view, or is it a mere commercial speculation? Dr. Gibier, to whom we propounded it, replied that he would reserve his opinion until there were further developments."

Dr. Brouardel and his associates have made their report to the Academy of Sciences, placing Dr. Ferran in no enviable light. They state that he absolutely refused to explain his method of preparing the liquid employed in inoculations, and to aid them in their investigations respecting its practical efficiency in the prevention or mitigation of cholera. When pressed to disclose his secret in the interest of science, he replied: "I shall keep my secret to myself. In disclosing it I know what I surrender, but I do not know what you will give me in return for it"—thus hinting that he had his price, and was more regard-ful of the *main chance* than of the honor of his profession and the interests of humanity. The French Commissioners, therefore, left without having been able to determine the question as to whether the mysterious liquid is a virus or a vaccine, whether it contains *microbes* in an original state or in a state of attenuation; and they strongly hint that the process is a humbug, and its alleged discoverer a quack.

In answer to this sharp criticism, Ferran immediately telegraphed to the Academy to this effect: "There is no secret. The Academy of Sciences was informed of my method on the 13th of April last. I offered then to prove the truth of my plan of prevention, and my proposition was not accepted. Look at the last line of my communication."

All this sounds very well, but a reference to the document itself shows that it contains no such explanation, that it deals in generalities and assertions, without giving details or process. He announces simply what he has done, and what he proposes to do, without pretending to explain the process by which he cultivates and attenuates the cholera *bacillus*. The world, therefore, has not been made one whit the wiser either by Ferran's communication to the Academy or Brouardel's journey to Spain, and the whole subject of the prevention of cholera by inoculation is still *sub judice*. It is perfectly evident that the two parties did not meet in that spirit of calm impartiality which the occasion called for. If the Spaniard was disingenuous and mercenary, the Frenchman was equally haughty and dictatorial. Both thought too much of themselves to preclude the clashing of their respective personalities, and to encourage that impartiality of investigation which the claims of science demanded. Each seems to have sought a paltry triumph over the other, and to have lost sight of his obligations to truth and to humanity in the struggle to secure it. Alas for human nature! What a poor thing it is after all, and how much there is of it in everybody—*scientists*, as they call themselves, not excepted!

The great discoverer has now started on a pilgrimage to Paris, to "confer with Pasteur," and to appeal to the sober judgment of that Academy at which he snapped his fingers so defiantly but yesterday. Such is the fate which has befallen Ferran, the boasted regenerator of Spanish medicine, and the pretended benefactor of the human race!

And yet it does not follow from the failings or the misfortunes of its discoverer that the process is a fallacy. The broken bottle may contain wine of the richest flavor and the finest body. The bawling huckster may have goods to exhibit of the finest texture and the greatest value. The idea which Ferran has sought to elaborate is but the natural outcome of Koch's hypothesis; it is in the current of advancing science, and may be an integral element of the stream. There are not wanting already many earnest disciples of this revelation, and there can be produced much independent testimony of the efficacy of inoculation both as a preventive of cholera and as a mitigator of its symptoms. The subject remains to be investigated—to be subjected to the tests of dispassionate scientific inquiry—apart from the prejudice of race, schools, personalities, and all that is calculated to warp human judgment and to veil the eyes of truth.

When Ferran shall forget the allures of the *commercant* and appeal in the tones of a true physician and a real philosopher to the Academy, he will have a fair field and a full hearing, and the question will be determined whether he has made a great discovery or a stupendous blunder. Ferran has played the *rôle* of a braggart and a huckster to but little purpose. His dream of a golden harvest and an immortality of fame has been dissipated in the house of his supposed friends. He has paid his long-promised visit to Madrid, with the result of receiving a peremptory order from the authorities to discontinue his inoculations, and to surrender his preparations—all of that mysterious fluid, the secret of which he had guarded so tenaciously. In vain have the disciples of Koch inveighed against the prohibition in the name of advancing science, and the surgeons of Valencia appealed for the revocation in the interests of suffering humanity. The ears of the obdurate *Prefet* are hermetically sealed, and he permits the scourge to rage on despite of these petitions, and regardless of Ferran's frantic offers to stay its progress, and to mitigate its terrors.

Some strong motive must have influenced the authorities of Madrid to adopt so stringent a measure in this regard, and a story is circulated here—which I give for what it is worth—that from a convent in which fifty-six nuns were recently vaccinated, the knell of twenty-two funerals was heard shortly afterwards.

Ferran's star has waned in Spain, at least for the present. The epidemic has nothing now to fear from his restraining inoculations. The *rocket* that coruscated so grandly for the moment, has disappeared in the darkness, and come down a *stick*.

It remains to be decided, however, whether his name is to descend to posterity as that of a great benefactor to the human race, or that of a graceless empiric who has sought to enrich himself out of the credulity and apprehension inspired by a devastating scourge.

I am, very truly and respectfully yours, etc.

EDWARD WARREN-BEY, M.D., LL. D.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly, cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

AMERICAN LARYNGOLOGICAL ASSOCIATION.

The following extracts are from the report of the *Medical News* of the Seventh Annual Meeting of the Association, which was held at Detroit, Mich., June 24, 25 and 26, 1885:

Dr. John N. Mackenzie, of Baltimore read a paper on

REFLECTIONS ON THE ETIOLOGY OF THE SIMPLE INFLAMMATORY AFFECTIONS OF THE UPPER AIR-PASSAGES.

His conclusions were as follows: First. Inflammation of the upper respiratory tract, either in its entirety, or localized in its individual parts, is a disease of the human race which has existed from the remotest period of historic times. Second. As the chief predisposing and exciting causes of the affection have been in operation for all ages, its origin is therefore coeval with the birth of man. Third. The evolution of nasal, pharyngeal and laryngeal disease in a given locality is, in all probability, a part of its geological history, and goes on *pari passu* with its varying meteorological conditions. Hence, the geographical limits of the disease have varied with different epochs of the earth's formation. The first portion of Dr. Mackenzie's paper was devoted to the elaboration of the above propositions. He next discussed in detail the chief predisposing and exciting causes proceeding from affections of the system as a whole, or disease of individual organs remote from the nasal passages, and the relations of syphilis, tuberculosis, gout, rheumatism, etc., to the affection in question. Having shown that nasal and laryngeal disease may proceed from a direct or indirect irritation, from a host of substances derived from the outer world, from an almost indefinite number of pathological conditions of the body as a whole, or from irritation or disease of organs distant from the seat of local inflammation, the reader proceeded to the discussion of the part which structural peculiarities play in the etiology of these affections, and to the consideration of the so-called catarrhal diathesis, which latter may be looked upon simply as a generic term for a multitude of varied physical peculiarities. Setting aside the inflammation which results from purely local irritation, it may be laid down as a law that the vast majority of catarrhal, pharyngeal, and laryngeal disease originates primarily in inflammation of the nasal cavities. He next quoted a number of causes efficient in the production of catarrh, and closed his paper with a proposition that in a large proportion of cases the existence of chronic inflammation in the nasal, pharyngeal, or laryngeal cavities is not due to any one particular cause, but is the resultant of a number of internal and external forces.

Dr. Cohen asked whether the climatic conditions, referred to in the paper, could not often be altered. The patient, however, could be protected by suitable hygienic and dietetic supervision. The functions of digestion and excretion must be attended to, the skin be kept in good order, and revulsive measures be adopted to withdraw morbid influences from the upper respiratory tract. Local measures, without due consideration of constitutional conditions, did not fulfil the requirements. Acute laryngitis occurred frequently in those not suffering with chronic catarrhal diseases, and subsided without such a sequel. On the other hand, subacute inflammations had occurred most frequently, in his experience, in the subjects of chronic disease as exacerbations due to some special exposure. The spasmodic affections of infants, alluded to in the paper as occurring in the subject of chronic naso-pharyngeal catarrh, were similar in origin to the night cough of infants, being due to trickling of mucus in the larynx. The indication, then, is to place the sleeping infant in a position which will not allow the entrance of secretion into the larynx, and, of course, to treat the catarrhal disease.

Dr. H. A. Johnson, of Chicago, remarked that naso-pharyngeal catarrh is common around our great Lakes, and is frequently benefited by a change of climate to the western plains, up to an altitude of five or six thousand feet. In high mountains the disease is aggravated. General tonics are of great value.

Dr. Ingals, of Chicago, also emphasized the necessity of attention to the constitutional condition, but said, on the other hand, we should not lose sight of the constitutional manifestations due to the nasal disease. In many cases great impairment of general health is dependent upon nasal obstruction, and remarkable improvement would immediately succeed removal of the nasal obstruction.

Dr. Glasgow, of St. Louis, believed that dust held a most important place in the production of catarrhal symptoms.

Dr. Allen considered that local treatment in these was of great importance.

Dr. Mackenzie closed the discussion by stating that his position was, that the localization of catarrhal processes in the retro-nasal space, or the geographical limits of the disease, have little to do with the presence of dust in the atmosphere. While true that dust accidentally lodged in the nasal passages may give rise to inflammation, he believed that few cases originate in this way, for reasons which he had explained in his paper.

Dr. D. Bryson Delavan read a paper on

ERYSIPELAS OF THE LARYNX AND PHARYNX.

The reader referred to the classic thesis upon this subject, published by Cornil in 1862, and stated that although well known to Hippocrates, the subject had of late received so little attention, particularly in this country, that but one case had been reported; while Morrell Mackensie stated in his *résumé* of it, that he had seen but four. Having given a short review of the subject, the writer proceeded to relate two original cases. In case first, the disease originated in one tonsil. It spread over the pharynx and thence extended through the nasal cavities to the lips, face, and head. The patient suffered from marked cerebral symptoms of an acute form, and two weeks after convalescence developed a condition of insanity which remained chronic. The next case occurred in an aged patient of rheumatic habit and broken-down constitution. She was attacked with what at first seemed acute laryngitis. The disease, however, spread in both directions, involving both the lungs and the pharynx, producing in the former distinct and widespread broncho-pneumonia, and in the latter an intense congestion. Laryngoscopic examination showed the larynx to be tumefied and of a dark purplish color. There was no necessity for tracheotomy, however.

The constitutional symptoms were comparatively slight. The patient recovered. The cerebral symptoms in case first were evidently due to an acute meningitis, due to the influence of the systemic poisoning. This having become chronic, was the cause of the resultant insanity. The writer believed that erysipelas of the pharynx and larynx was not an uncommon affection, and urged that greater interest be taken in the recognition and recording of cases.

Dr. Rice, of New York, agreed with the writer in believing the disease of occasional occurrence among the broken-down subjects met with in general hospital practice.

Dr. Roe, of Rochester, had, in a similar case, applied a spray of alcohol with good success.

Dr. Cohen suggested that from the well-known efficacy of the hydrochlorate of pilocarpin in facial erysipelas, it might prove a valuable remedy in this special manifestation.

Dr. Delavan, in closing the discussion, suggested that in the use of pilocarpin the dose commonly recommended was excessive. He had made an extended series of observations upon the effect of this drug, and believed that the dose of one-twentieth of a grain, hypodermically, should, as a rule, be the maximum when administered to the patient for the first time.

Dr. R. P. Lincoln, of New York, contributed a paper in which he reported

A CASE OF MELANO-SARCOMA OF THE NOSE CURED BY GALVANO-CAUTERIZATION.

A little over two years ago, patient first noticed an obstruction to free respiration in the right nostril. This was followed by continual mucopurulent blood-stained discharge. Her general health at this time was good ; there was little or no pain. Six months later this nostril became completely occluded. The growth was then removed, and pronounced upon microscopic examination to be cancerous. Two months later the former symptoms reappeared, and continued to increase for eight months, when the first operation was again repeated. In the course of four months afterwards the tumor increased very rapidly, when the patient placed herself in the hands of a so-called "cancer doctor." The patient came under the observation of Dr. Lincoln in November, 1884. At this time the right side of the nose, extending to the inner canthus of the eye, showed a fulness amounting to about four times the size of the left side of the nose. The lower half of its ala was wanting, and there protruded from the right nostril for about half an inch a dark-colored, fleshy mass, which completely filled it. This was attached to the outer margin of the nostril as well as to its floor. A plum-colored discharge flowed constantly from the nostril, and the lightest touch by a probe upon the mass excited hemorrhage. Exploration showed the tumor to grow from the inferior and middle turbinated bones and from the floor of the nostril for a distance of two and a half inches. The septum was free. The tumor protruded in the post-nasal cavity, occupying about half of it. Its removal was effected by means of the galvano-caustic ecraseur, and a subsequent cauterization of points of attachment. Great pains were taken to make the cauterization complete, and thus secure the entire removal of diseased tissue. Hemorrhage was inconsiderable. A disinfectant solution was used for about a week after the operation. The patient was allowed to return home two weeks after the operation. On May 27, 1885, the patient having returned at intervals of one or two months since the operation, careful examination failed to reveal the slightest recurrence of the disease. A microscopical examination of the tumor made by Dr. Frank Ferguson of the Pathological Department of the New York Hospital identified the tumor as a true melanotic sarcoma.

Dr. Beverly Robinson, of New York, presented a paper on

ALIMENTATION IN LARYNGEAL PHTHISIS,

which was read by the Secretary. The writer explained that three methods of treatment were in vogue for the alimentation of such patients: first, the method of super-alimentation, advocated by De Bove and others; second, the method by means of a tube of small calibre passed a short distance into the œsophagus, and proposed by Delevan; and third, the method by rectal enema. All of these methods he explained somewhat in detail, and opposed against them certain objections, fortifying his conclusions by the question of several cases. He strongly advocated the application to the ulcerated parts of cocaine, which greatly diminished the dysphagia and enabled the patient to swallow with comparative ease. Without the use of a local anæsthetic, however, such as cocaine, it was admitted that in some cases of laryngeal phthisis, when deglutition was otherwise painful, the patient might be sustained for months by means of injections of food into the stomach through an œsophageal tube. Moreover, that in those severe cases in which the passage of the œsophageal tubes occasioned considerable pain, dyspnœa, or nervous exhaustion, and despite the previous local use of cocaine, recourse might be had, as heretofore, to the use of nutrient enemata judiciously managed.

Dr. Cohen spoke favorably of the use of the small tube passed only part way into the œsophagus, which method he had used with good results.

Dr. Delavan also defended the method on the ground that by the use of the tube ulcerated parts were protected from irritation; that the use of cocaine was in many cases unsatisfactory; that the method, although not uniformly successful, would be found of value in a large number of these distressing cases, and objected to its condemnation by Dr. Robinson on the slender basis of two unsuccessful cases. As to the point raised by Dr. Robinson, that the method had been described by D. Frank Donaldson, in 1883, he desired to call the Association's attention to the fact that he had presented a full description of it in his candidate's thesis for the American Laryngological Association, submitted to the Council of the Association in the early part of 1880.

NEW YORK PATHOLOGICAL SOCIETY, STATED MEETING, MAY 13, 1885. JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

EXPERIMENTAL RESEARCH IN ETHER NARCOSIS.

Dr. R. W. Amidon presented the viscera of a cat which had died in a condition of narcosis from inhalation of ether. Five hours after the animal's death the right auricle contracted under the influence of mechanical irritation, as was demonstrated to the Society by quickly snapping the right side of the heart with the end of the finger. According to Dr. Amidon's observations ether kills a cat in about ten minutes, with shallow respiration and a continuation of the cardiac pulsation one or two minutes after the respirations have ceased. The heart ceases to beat in diastole on the right side and in systole on the left side. The abdominal viscera are very much congested, especially the liver. The kidneys are almost of stony hardness, especially in the pyramidal portion. The spleen is congested. The lungs are usually normal; they are neither excessively congested nor œdematous. The abdominal, thoracic, and cervical veins are excessively distended with blood. The brain and spinal cord are apparently normal.

Dr. Amidon remarked that his experiments were made for the following purpose: It had been laid down in many text-books in surgery that ether death was not always caused by asphyxia, but by heart-failure. In no case which he had studied had heart-failure been a primary factor. The anatomical appearances had been those of asphyxia, and he submitted the results of his experiments to the society. The indication in ether narcosis was, according to the result of his experiments, to start respiration and unload the right side of the heart, and the best method of accomplishing this was by artificial respiration accompanied by the administration of atropine, as he had set forth in a recently published paper.

Dr. Janeway remarked that he had heretofore directed attention to the indication for drawing off blood from the right heart with the hypodermic needle in certain cases, and in a few instances he had resorted to that procedure, but he had not yet been prepared to publish the result of his observations. He supposed it quite probable that in the great majority of cases of death from ether, the fatal result was due to aspiration of food into the larynx and trachea.

The President referred to a case in which the woman was practically dead for fifteen minutes, and in which the suspension of animation was produced by a blood-clot in the larynx.

Dr. Gerster referred to one case in which death was caused immediately by the ether. It was that of a woman thirty-five years of age, with a large and simple hypertrophy of the thyroid body which pressed upon the trachea, causing dyspnœa by stenosis, and she also suffered from chronic catarrhal pneumonia of both sides, which greatly increased the dyspnœa. He decided, in spite of the large goitre, to perform tracheotomy to relieve the dyspnœa. The patient was anæsthetized with ether, and did not receive more than four or five whiffs before she became unconscious. The pulse and respiration going on, the incision was made with the knife and thermal cautery, but during the operation the pulse and respiration ceased and the face of the patient presented the appearance of one in collapse. Tracheotomy was rapidly completed, and one or two shallow respirations took place, but the patient was dead. At the autopsy there was found extensive involvement of both lungs, and fatty heart insufficiency of the tricuspid valves.

Dr. Amidon remarked, with reference to the aspiration of the right side of the heart, that he had seen animals apparently dead from ether narcosis, and the heart had begun to beat again after free incision in a large vein, or in the liver, and allow it to be partially evacuated. He had suggested in his paper that free venesection might be a powerful adjuvant in the treatment of these cases. He would ask the surgeons present if they had noticed any difference in the effect produced by ether when Esmarch's bandage had been used; that is, whether the patient came under its influence more or less rapidly, and whether there was more or less liability to accidents.

Dr. Gerster said he had not observed any case with special reference to these points. With reference, however, to the propriety of artificial respiration, which he endorsed thoroughly, he might relate a case in which the heart had ceased entirely to beat, as the result of entrance of air into the pleural cavity. The case was one in which the pleural cavity was opened by an operation for the removal of a morbid growth, and as soon as the lung was subjected to the influence of atmospheric air the heart's action and respiration ceased, but were immediately restored by closure of the opening.—*N. Y. Medical Record.*

REVIEWS.

Hay Fever and Its Successful Treatment by Superficial Organic Alteration of the Nasal Mucous Membrane. — An Essay read before the Philadelphia Laryngological Society, April 24, 1885. By Charles E. Sajous, M.D. Illustrated with thirteen wood engravings. Philadelphia: F. A. Davis, Attorney, Publisher, No. 1217 Filbert Street, 1885.

The intention of this little work is sufficiently indicated in its title.

It goes without saying that any positive contribution toward the alleviation of hay fever will be welcomed by the heretofore baffled practitioner, and thrice welcomed by his long-suffering and much-discouraged patient. The book offers double cause for congratulations: First, it has been pretty clearly established by a number of observers that the author's views are reliable and his method of treatment a success; and, secondly, the credit of having explained the pathology of hay fever, and of having proposed the only known radical measures for its cure, belongs to the profession of the United States, and this through the combined effects of the suggestions and the painstaking labors of Beard of New York, Daly of Pittsburgh, Roe of Rochester, and the author now in hand.

In studying his brochure we find that he insists that "both systemic and local elements must exist simultaneously to render a paroxysm possible." The systemic elements are, hereditary predisposition, unusual proclivity to the diseases incident to childhood. Of the latter, whooping cough seems to play an important part; for, upon the forty cases upon which the Doctor had based his remarks, *all* have had this disease. This coincidence, he believes, suggests a common systemic cause for both diseases—"an abnormally sensitive nerve centre upon which the element of contagion, or the irritant, acts with effect."

The theory of the existence in the nasal membrane of localized centres of reflex irritation, as held by J. N. Mackenzie and others, is then presented, and the effects of various special irritants explained.

In the treatment of hay fever the author states that "the first indication is to ascertain, by careful examination of the nasal chambers, whether the condition which gave rise to the hyperæsthesia is sufficiently marked to receive special attention. In the great majority of cases simple chronic rhinitis exists, with a tendency to frequent or permanent turgescence of the mucous membrane. In others we have true hypertrophy, and occasionally we find polypi, while a dessicated or thickened septum may keep up a marked irritation and constitute a serious obstacle to subsequent thorough treatment. When these or any other abnormal condition compromising mechanically the lumen of the cavities are present, they should first receive attention, and the nasal cavities be returned as nearly as possible to their normal state. "The application of an escharotic will often be sufficient to annul the hyperæsthesia of the mucous membrane. Nitric acid or the galvano-cautery, applied to the turgescent portions carefully and over a limited area, will result in an eschar which, upon healing, forms a cicatrix. This will prevent further distention, being assisted by the consolidation induced in the deeper layers of the membrane by the acute inflammatory process following the cauterization. Glacial acetic acid may be used instead of nitric acid, but its effects are not so active. In some cases, therefore, it may be preferable. Great care should be observed in the application of these drugs, and only a very small extent of surface touched at a time.

In cases where the hypertrophy is permanent, some properly constructed surgical instrument must be used for its removal. As to the after-effects of the local treatment, "the permanent nasal hyperæsthesia which exists in the majority of cases is naturally obviated in every instance."

CONCLUSIONS.

The conclusions to be drawn can be summarized as follows:

1. That, as a result of heredity or of diseases implicating markedly the ner-

vous system, the nerve centres become abnormally sensitive, and are, therefore, inordinately influenced by the external elements to which they are naturally susceptible.

2. That, as a result of local disease, the portions of the nasal mucous membrane over which the branches of the spheno-palatine ganglion and those of the nasal branches of the ophthalmic nerves are distributed become hyperæsthetic, and capable of acting as a media for the transmission of impressions made upon their surface to the nerve centres.

3. That when these two conditions co-exist, and when the external elements, to which the nerve centres are inordinately sensitive, are present in the atmosphere, a paroxysm termed "hay fever" is excited.

4. That the paroxysm cannot take place unless the inordinate susceptibility of the nerve centres, the intra-nasal hyperæsthesia, and the external irritating cause are present simultaneously.

5. That since one of the necessary elements, the external irritating cause, is only present at a certain time each year, the paroxysm can only occur at that certain time.

6. That as a consequence of the above, elimination of one of the three elements necessary to the production of a paroxysm will prevent its occurrence.

7. That by cauterizing by means of galvano-cautery or acids the hyperæsthetic portions of the membrane, their hyperæsthesia can be permanently annulled.

8. That the medium between the external irritating cause and the systemic dyscrasia being thus obliterated, the periodical paroxysms termed hay fever become impossible.

9. That there are in the nose three hyperæsthetic areas, for which the terms posterior, middle, and anterior areas are proposed, and which are individually or conjointly the principal seats of the hyperæsthesia in hay fever subjects.

10. That the posterior area is principally implicated when reflex asthma is the most prominent symptom of the affection.

11. That the anterior area is principally implicated when head symptoms are alone present.

12. That when head symptoms and reflex asthma are present both anterior and posterior areas are implicated.

13. That the middle area may alone be the starting-point of all the symptoms combined.

14. That catarrhal asthma has no relation with the nasal hyperæsthesia, being merely a result of the local inflammation occurring during a paroxysm.

As bearing directly upon the treatment, the author suggests the following:

1. That all abnormal conditions of the nasal cavities, such as marked hypertrophies, polypi, exostoses, etc., must be eradicated before instituting the superficial cauterizations.

2. That the latter are productive of best results when begun six weeks, at least, before the onset of the paroxysm.

3. That the treatment can be conducted *during* a paroxysm, the latter being arrested in some, and beneficially modified in others.

4. That the immunity against hay fever depends upon the thoroughness with which the treatment is conducted.

NOTES FROM THE PHYSIOLOGICAL LABORATORY OF THE UNIVERSITY OF PENNSYLVANIA. Edited by N. A. RANDOLPH, M.D., Assistant Demonstrator of Physiology in the University of Pennsylvania, Fellow of the College of Physicians, Philadelphia; Member of the American Philosophical Society, of the Academy of Natural Sciences of Philadelphia, of the Philadelphia Neurological Society, of the Society of Naturalists of the Eastern United States, and of the American Society of Psychical Research; and SAMUEL G. DIXON, Assistant Demonstrator of Physiology in the University of Pennsylvania. Philadelphia: J. B. LIPINCOTT COMPANY, 1885.

It is an encouraging sign to notice that works embodying original scientific research like the present are becoming more common in this country than formerly, and they cannot fail to reflect honor on American investigators, as well as induce an increasing respect in Europe for American works of this kind. It is all the more deserving of praise from the fact that there is no governmental or public provision for the carrying on of such researches here, and that they almost always have to be prosecuted under great disadvantages and in the face of many discouraging circumstances. The same amount of care, time, and thought required for these labors, if expended in more distinctly practical directions, would, as a rule, not only be of vastly greater pecuniary advantage to those engaging in them, but also add more to their reputation in the eyes of the general public.

There are fourteen topics treated in this volume, and the first of these is the examination of the fæces of starch-fed infants. The stools of twenty-four starch-fed infants of ages varying from forty-five days to eighteen months were investigated, and the results noted were completely at variance with the generally accepted teachings of the present day. The authors report that the presence of starch was exceptional and apparently in no degree dependent upon the age of the child. The stools of eighteen of the twenty-four children, six of whom were of three months or less, contained either no starch, or but a trace, that is, no more than is frequent in the evacuations of a healthy adult upon a mixed diet. The six infants in whose evacuations a noteworthy amount of starch was present were aged respectively three, four, ten, thirteen, fourteen, and seventeen months, and the eldest two were in very bad health. The article concludes as follows: "The facts presented appear to justify the following conclusions:

"First, that *many* infants of under three months can digest starchy foods.

"Second, that the individual variations, in this regard, are so numerous that no broad and general statement can be made as to the period at which infants *begin* to digest starches; and

"Third, that the physician can be absolutely certain that a farinaceous ingredient is beneficial only by an examination of the dejecta under such diet."

Should these observations be confirmed in a more extended series of cases, it might, perhaps, result in a modification of the method of infant feeding at present adopted by the best authorities; but this is doubtful, from the fact that, aside from any theoretical considerations, it has been found practically that, as a rule, young infants do not thrive so well on farinaceous diet as that which is essentially free from starchy matters, and that, in general, the best artificial food is that which approximates most closely to mother's milk.

An examination of the fæces of twenty persons receiving inunctions of cod-liver oil, as recorded in the second article, leads the authors to make the suggestion that, in practice, the increase of fat in the stool constitutes a physiological test for the efficiency of the aliptic treatment in the great majority of cases, and that by the application of this test both the frequency of exhibition and the amount of a remedy rather repugnant to the average patient may be reduced to the minimum necessary for efficient treatment.

The results set forth in an article entitled, "On Certain Untoward Effects of the Administration of Turpeth Mineral," would seem to justify great caution in the use of this drug, especially in view of the praise it has received in several quarters, and of the fact that the demand for it, as stated by a number of prominent dealers, is quite large, and apparently growing.

The authors, therefore, desire to emphasize the following conclusions, based on observations old and new:

First, that a dangerous quantity of turpeth mineral often remains in the stomach after emesis.

Second, that this drug possesses sufficient toxic and irritant properties not only to demand from the profession much more than usual caution in its administration but to condemn its use where the exhibition of any other emetic is practicable.

Third, that it should not be placed in the hands of the laity.

In an article on the dietetic factor in the treatment of angina pectoris, Dr. Randolph states that there has recently been under his care a patient suffering from true angina, in whom, as is not seldom the case, any slight gastric irritation constituted the immediate exciting cause of the frequently-recurrent paroxysms. After the last attack there existed an inability to retain the lightest and simplest foods, their ingestion inducing not only nausea but much cardiac distress. Recourse was had, with advantage, to milk, partially digested by extractum pancreatis; but the flavor was unappetizing, and finally became repulsive to the patient.

To meet this emergency there were devised two food products, pancreatized oysters and pancreatized milk-toast, which he says proved eminently satisfactory, and the preparation of which he proceeds to give in detail. In conclusion, the doctor expresses the hope that these rather homely suggestions may prove of value in other hands, in extending the somewhat scanty bill of fare suited to patients suffering from gastric hyperæsthesia, and the various neurotic troubles of which such a condition may be the exciting cause.

Under the title "A Painless Escharotic" is described a saturation solution of cocoaine in strong nitric acid. When this is applied to the uninjured skin, the ultimate result is precisely that which would occur upon the similar application of pure nitric acid, but the time required for the formation of a deep eschar is considerably longer in the former than in the latter case, while there is only a slight pricking sensation soon after the mixture is first dropped upon the skin. In two cases the burned points were covered with absorbent cotton wet with a two per cent. solution of cocoaine salicylate, a salt which, in addition to the peculiar properties of its contained alkaloid, appears to be somewhat antiseptic.

Among the other articles in this interesting little work are the following: "A Preliminary Note on a Reaction Common to Pepsine and Bile-Salts;" "A Note on the Behaviour of Hydrobromic Acid and of Iodide of Potassium in the Digestive Tract;" "On the Digestion of Raw and of Boiled Milk;" "A Study of the Nutritive Value of Branny Foods;" "Cutaneous Absorption of Nicotine;" and, "On the Cutaneous Absorption of Salicylic Acid."

BOOKS AND PAMPHLETS RECEIVED.

"Elements of Modern Medicine." By R. French Stone, M.D. New York: D. Appleton & Co., Publishers.

"The Physiognomy of the Vulva as a Sequence of Anal Disease, the Cause or Sustaining Cause of Disease of the Generative Organs of the Female." By Isaac E. Taylor, M.D. Reprinted from vol. ix, Gynæcological Transactions, 1884.

"Anomalous Human Lung, Having Four Lobes on the Right Side." By Wm. A. Edwards, M.D. Reprinted from the *American Journal of the Medical Sciences* for July, 1885.

"Proceedings of the Alumni Society of the Medical Department of the University of Pennsylvania for 1885, with the Annual Address, by Eugene Grissom, M.D., delivered March 24, 1885."

"A Contribution to the Mechanical Treatment of Diseases of the Knee-joint." By Charles F. Stillman, M.S., M.D. Reprinted from the *Boston Medical and Surgical Journal* of June 11, 1885.

"Some Personal Observations on the Work of Lawson Tait, together with a Report of Five Cases of Abdominal Section by the Writer." By A. Vander Veer, M.D. Reprinted from the *American Journal of Obstetrics and Diseases of Women and Children*, vol. xviii, No. 7, 1885.

"University of Pennsylvania. Catalogue and Announcement, 1884–85. Department of Biology."

"University of Pennsylvania. Catalogue and Announce ment, 1884–Medical Department.

"Bellevue Hospital Medical College, New York." Annual Announcement, 1885–86.

"College of Physicians and Surgeons: Medical Department of Columbia College in the city of New York." Seventy-eighth Annual Catalogue and Announcement, New York, June, 1885.

"Annual Announcement and Catalogue of the College of Physicians and Surgeons, Baltimore, Md., 1885–86, with the Introductory Lecture to Session, 1884–85."

"Catalogue of the Medical College of Virginia, Richmond." Session 1884–85, and Announcement of Session, 1885–86.

"Iowa College of Physicians and Surgeons, Des Moines, Iowa." Annual Announcement, 1885–86.

"Annual Announcement of Cooper Medical College, successor to the Medical College of the Pacific, San Francisco, Cal." Session of 1885.

"Shadows in the Ethics of the International Medical Congress." By Levi Cooper Lane, A.M., M.D., San Francisco, 1885.

"Introduction to a Discussion on the Diagnosis and Treatment of Tumors of the Bladder, British Medical Association, Annual Meeting, July, 1885." By Reginald Harrison, F.R.C.S.

"Surgical Notes from the Case Book of a General Practitioner." By William C. Wile, M.D., Sandy Hook, Conn., editor and publisher of the *New England Medical Monthly*. Reprinted from the *New England Medical Monthly*, July, 1885.

MISCELLANEOUS.

DR. EDWARD WARREN BEY.—The following appreciative notice of the distinguished Paris correspondent of the *Journal*, Dr. Edward Warren Bey, occurs in a recent letter from the Paris correspondent of the New York *Times*.

In speaking of the approaching marriage of Miss Florence Huntley Davis, of the United States, to the Compte De Brosse, he says:

"One of the lady's 'witnesses' is to be our Minister, Mr. McLane, the other Dr. Edward Warren, who has just been elected a Fellow and one of the Honorary Secretaries of the Society of Science, Letters, and Art, of London, at the head of which are the Dukes of Argyll, Portland, and Montrose, the Marquisses of Lothian and Ailsa, the Earl of Glasgow, etc. Dr. Warren's career abroad has been remarkable. His eminent services in Egypt, where, in spite of the hostility, he was rewarded with the title of Bey and the decoration of the Osmanieh, were only the beginning of his European reputation. Since then he has been admitted to practice medicine in France as a licentiate of the University of France—not merely admitted to practice on tolerance, as are a host of those who style themselves here 'doctors,' but who might be puzzled to show their diplomas. He has received the Medal of Merit at the Exposition of 1878, the Cross of the Legion of Honor, the White Cross of Italy, the Crosses of the Redemption of Jerusalem and of Isabel the Catholic of Spain, the Medal of Victor Emmanuel, and the membership of the Red Cross of Geneva, all of which have been conferred in recognition of his scientific attainments and his professional successes. Such a career reflects credit upon our country. At the solicitation of numerous friends, Dr. Warren has embodied 'A Doctor's Experiences in Three Continents' in a volume which will shortly appear, and ought to be read carefully as well by his brother physicians as by the public generally. His account of the harems of Egypt cannot fail to be particularly interesting, as he practiced medicine among the ladies of Pharaoh's land, and perhaps knows more about their life, manners, and customs than does any other living Christian."

A Case of Double Uterus, with a Fœtus in Each.—The following interesting case is reported in the *Atlanta Med. and Surg. Journal*, by Dr. E. W. Lane:

On Thursday, the 21st of February, 1884, Mrs. K., aged 35, a healthy, robust Georgia lady, *primipara*, was taken with labor pains, and Dr. T. J. Hendley was called in to attend her, and on his arrival made the necessary examination usual in such cases, and found, as he supposed, nothing unusual, only that he could not find the os or feel the fœtus by digital examination. He remained with her almost constantly, and examined her from time to time, until late Saturday night, when he felt a hard substance that he took to be the head. The case progressed so slowly, and was so different from anything that he had ever seen, he asked that I be sent for to assist him, which was very readily agreed to, and a messenger dispatched for me, with a note from Dr. H., asking that I come immediately, and saying, "I think that I have felt the head." I received the note about daylight Sunday morning, and as soon as I could make the necessary preparation I started, but the roads being bad and distant fourteen miles, I arrived there about ten o'clock A. M. On arriving, the Doctor told me that since I had been sent for he thought that he had felt the toes, but was not certain of it, and requested me to examine and see what I thought of it. I accordingly did so, and found, as the Doctor had supposed, a foot presentation, though very high up. After waiting some half hour and finding but little progress in the case, I managed to fix the toes between my index and middle fingers, and at each pain to make traction. In about half an hour's time, we had got the foot to where, with much trouble, we got a ribbon around it, and by making traction on the ribbon at each pain, we got the foot through the vulva. But at this period things seemed to come to a standstill. No traction that we were willing to make would move it a particle. I then introduced my fingers and found that the knee was pressing against some hard substance. At the next pain I pressed it up, at the same time making traction on the ribbon, and the knee slipped by and was brought out. The pains now became stronger, and the balance of the delivery was, as is usual in foot presentations, only more tedious. The child, by being so long in its passage through the parts, proved to be dead. We used all means in our power to resuscitate it, but could only get it to gasp twice. It was born about one o'clock P. M. The child, a male, was larger than the average. We were not long in discovering that there was another fœtus in utero. We ligated the cord and divided below and left the patient to rest, but as the pains were very feeble and the patient much exhausted, we gave her a stimulant, shortly after which they began to improve a little. I then made a digital examination by following up the cord. My finger passed into the uterus, but could find no presenting fœtus, but being very confident that there surely was another, I again explored the organ as far as my finger could reach, but by feeling about I found a hard substance to my right, probably the same that Dr. Hendley had felt before having had me sent for, and by further examination found the os dilated about the size of a twenty-five cent piece, opening laterally into the vagina. We waited all the balance of Sunday and Sunday night, and until a little after sunrise Monday morning. The bag of waters by that time was pressing open the vulva. We then ruptured it, hoping that the pains would become more expulsive, but it seemed to do no good in that respect. We waited until about eight o'clock A. M., and finding that the head had become sufficiently low down, and that the fœtus was dead, we punctured its head, and I hooked my fingers in the head and delivered a female child of medium size. It had been dead probably for the last twenty hours or more. There was but little hemorrhage. Both placentæ were retained. I introduced my hand and followed the cord of last delivered fœtus to the placenta and delivered it. The uterus contracted as I withdrew it. I then followed the other cord, which led my hand into another uterine cavity, and I found the placenta adherent. I detached it and removed it, but the uterus did not contract, and the hemorrhage was considerable. I again introduced my hand, and with a cloth in it about the size of a lady's pocket handkerchief, saturated in apple vinegar, and thoroughly explored the organ, and near the fundus I found a semi-solid substance, nearly or quite as large as either of the placentæ. I detached and removed it, and uterus No. 2 contracted, forcing out my hand with what I took to be a male uterus. No. 2 was then well contracted, and both could be felt through the walls of the abdomen, distinctly separated and lying side by side. Both placentæ were attached to the right side of its uterus. The lady lay in a comatose condition until two o'clock P. M., Monday, when she rallied; and from then until her final getting up, which was in usual time in ordinary cases, there was nothing more in her case worthy of note.

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MEDICAL NEWS.

The Committee Appointed to Arrange for the Meeting of the International Medical Congress met in New York Sep. 3. Dr. L. A. Sayre, of New York, resigned on account of ill health, and Dr. A. Flint, Jr., was elected to fill the vacancy. A set of "Rules" was unanimously adopted, of which the first is the following: "The Congress shall consist of members of the regular profession of medicine, and of such other scientific men as the Executive Committee may see fit to admit, who shall have inscribed their names on the register, and shall have taken out their tickets of admission." Dr. S. C. Gordon, of Maine, recalled his withdrawal from the Congress, which action was accepted by the Committee. The following-named gentlemen were elected to fill vacancies in the Committee of Arrangements:

Dr. J. K. Bartlett, Wisconsin; Dr. J. H. Baxter, U. S. Army; Dr. George Goodfellow, Arizona; Dr. Henry Leffman, Pennsylvania; Dr. John Morris, Maryland; Dr. J. R. Tipton, New Mexico; Dr. Thomas J. Turner, U. S. Navy.

The following resolution was adopted: Resolved, That the representative or representatives in this Committee from each State, Territory, or Government Department, shall organize the Financial Committees in their respective States, Territories, or Government Departments.

It was decided that no person should occupy more than one position in the organization of the Congress. It was also decided that in the published lists of the officers of the Congress, the names of the vice-presidents and secretaries of the Congress, and the vice-presidents, secretaries, and members of Councils of the Sections, should be arranged alphabetically.

OFFICERS OF THE CONGRESS.

President: Austin Flint, M.D., LL.D., New York.

Vice-Presidents: W. O. Baldwin, M.D., Alabama; H. I. Bowditch, M.D., Massachusetts; William Brodie, M.D., Michigan; Henry F. Campbell, M.D., Georgia; W. W. Dawson, M.D., Ohio; R. Palmer Howard, M.D., Canada; E. M. Moore, M.D., New York; Tobias G. Richardson, M.D., Louisiana; Lewis A. Sayre, M.D., New York; J. M. Toner, M.D., District of Columbia; the President of the American Medical Association; the Surgeon-General of the U. S. Army; the Surgeon-General of the U. S. Navy; the Supervising Surgeon-General of the U. S. Marine Hospital Service.

Secretary-General: Nathan S. Davis, M.D., LL.D., Illinois.

Treasurer: E. S. F. Arnold, M.D., M.R.C.S., New York.

Chairman of the Finance Committee: Frederick S. Dennis, M.D., M.R.C.S., New York.

Executive Committee of the Congress: Austin Flint, M.D., LL.D., President of the Congress; Nathan S. Davis, M.D., LL.D., Secretary-General; E. S. F. Arnold, M.D., M.R.C.S., Treasurer. Frederick S. Dennis, M.D., M.R.C.S., Chairman of the Finance Committee.

Presidents of the Sections: A. B. Arnold, M.D., General Medicine; William T. Briggs, M.D., General Surgery; Henry F. Smith, M.D., Military and Naval Surgery; DeLaskie Miller, M.D., Obstetrics; Robert Battey, M.D., Gynæcology; F. H. Tirrell, M.D., Therapeutics and Materia Medica; William H. Pancost, M.D., Anatomy; John C. Dalton, M.D., Physiology; E. O. Shakespeare, M.D., Pathology; J. Lewis Smith, M.D., Diseases of Children; A. W. Calhoun, M.D., Ophthalmology; S. J. Jones, M.D., Otology and Laryngology; A. R. Robinson, M.D., Dermatology and Syphilis; Joseph Jones, M.D., Public and International Hygiene; Henry O. Marcy, M.D., Collective Investigation, Vital Statistics, and Climatology; John P. Gray, M.D., LL.D., Physiological Medicine; Jonathan Tafft, M.D., Dental and Oral Surgery.

Local Committee of Arrangements (with power to increase their number).—A. Y. P. Garnet, M.D., Chairman, District of Columbia; the Surgeon-General U. S. Army; the Surgeon-General U. S. Navy; the Supervising Surgeon-General U. S. Marine Hospital Service; J. H. Baxter, M.D., District of Columbia; C. H. A. Kleinschmidt, M.D., District of Columbia; N. S. Lincoln, M.D., District of Columbia; J. M. Toner, M.D., District of Columbia, and such additional members of the profession in the District of Columbia as the Executive Committee of the Congress may select.

Lists of vice-presidents, secretaries, and councilmen for each Section were named by the Committee of Arrangements; but as it was not practicable to ascertain at once who would accept the places assigned them, or who of those who had been announced in the medical press as declining to accept positions before the present rules and organization had been adopted, as given heretofore, might wish to withdraw such declination, the final adjustment of these offices was referred to the Executive Committee of the Congress, and all correspondence in relation thereto was transferred to the secretary-general of the Congress.

THE CHOLERA IN EUROPE appears to be decidedly on the wane. In Spain the returns show that on September 5, there were reported 2,147 cases and 779 deaths; and on September 7, 1,870 cases and 630 deaths. In Marseilles there were reported ten deaths on September 6, eight deaths on September 8, and eight deaths on September 9. At the latter date, thirty-two patients remained under treatment at the Pharo Hospital. In Toulon, also, where the epidemic was quite severe in the latter part of August, the disease is also rapidly diminishing. On September 6 nine deaths were reported, and on September 8 one death; while 117 patients remained under treatment in the various hospitals of the city.

CHOLERA IN JAPAN.—On the 29th of August, Secretary Bayard received a cablegram stating that cholera had broken out at Nagasaki, Japan, and that the death rate was reported to be large. The port has, therefore, been declared infected.

YELLOW FEVER IN MEXICO.—Paso del Norte, Mexico, August 28.—Reports reached here to-day which seem to confirm previous rumors that yellow fever is raging on the Pacific coast of Mexico, and has appeared at both Guaymas and Mazatlan. Late reports from Vera Cruz say the scourge is continually spreading, notwithstanding the untiring efforts of the authorities to suppress it. Many small interior cities back of Vera Cruz are suffering terribly from the deathly ravages of the fever, and the people are fleeing to higher altitudes. Travelers from the city of Mexico say that the city is ripe for almost any kind of an epidemic. They declare that it is filthier than usual, and that many of the wealthier residents from the Gulf towns are settling in the city, pending the subsidence of the epidemic on the Gulf coast. Mazatlan and Guaymas are represented as reeking in filth, and fearful mortality may be expected at both places.

THE SMALL-POX IN MONTREAL.—Small-pox still continues to be epidemic in Montreal. During the week ending August 1, there were reported fifty-six deaths from it; in the week ending August 8, thirty-six deaths; in the week ending August 15, forty-two deaths; in the week ending August 22, fifty-six deaths; in the week ending August 29, ninety-six deaths; and in the week ending September 5, 103 deaths. In view of the increase of the disease, the Montreal Board of Health had a conference September 1, with representatives of the health boards of some of the border towns in the United States, and of the various forwarding companies, in reference to the adoption of suitable means of preventing small-pox from being carried across the line by infected persons. The outgoing mails have also been ordered to be fumigated.

DEATHS CAUSED BY CANCER IN NEW YORK.—Dr. John T. Nagle, of the Bureau of Vital Statistics, has prepared a table of the deaths from cancer in this city during the past ten years, from which it appears that in 1875 there were 416 deaths from cancer, three from cancer of the throat, four from cancer of the tongue, and seven from cancer of the mouth. Last year there were 725 deaths from cancer, nine from cancer of the throat, one from cancer of the tongue, and nine from cancer of the mouth. The total number of deaths in the last ten years from cancer was 6,012, of which forty-seven were from cancer of the throat, seventeen from cancer of the tongue, and eighty-two from cancer of the mouth.

DEATH FROM A RATTLESNAKE BITE—Lafayette, Ala., Aug. 11.—William Allanson, of Fishabee Falls, was bitten by a large rattlesnake on Sunday. Whiskey was the only remedy at hand, but as Allanson had identified himself prominently with the prohibition movement he declined to take it. He died in great agony to-day.

THE PROFESSION IN TEXAS.—With a population of nearly 2,500,000, Texas has 4,000 doctors.

OPENING OF A VETERINARY HOSPITAL IN PENNSYLVANIA UNIVERSITY.—Philadelphia, Sept. 1.—The new buildings of the Veterinary Department of the Pennsylvania University were opened this morning without ceremonies. The first patient was a bay mare afflicted with lameness. It was accommodated with a stall in one of the stables, and will be operated upon to-morrow. The next invalid was a valuable Gordon setter dog in a dropsical condition. He was placed in the canine ward, and had to take a powder which he did not relish. After washing the medicine down his throat with water he curled himself up and looked with sickly eyes at his doctor, who said, "Poor fellow," and left him. Professor Huidekoper, who is in charge of the hospital, said: "This is the largest veterinary hospital in America, and only inferior in size to one at Paris and one at Pesth. It affords accommodation for 150 students, who will receive a thorough training in veterinary science."

The hospital is at Thirty-sixth and Pine streets, near the University, and stands on a large tract of land given by the City Council to the new department. It has a frontage of over 250 feet, and is built of stone and brick. There is stabling for forty horses, and accommodations for other animals. The "crazy" stall is circular and padded for delirious horses. The students' quarters include a commodious amphitheatre and museum, anatomical room, sixty-six by twenty feet, lighted both sides; histological laboratory forty by twenty feet; pharmaceutical laboratory, and four private laboratories. A blacksmith shop is fitted up with eight forges. The premises cost $50,000, and about that sum is required to complete the designs of the founders, who propose to add a botanical garden with a horse track around it. The employees' livery consists of a dove-colored corduroy suit and a cap like that worn in the German army.

THE THIRD ANNUAL MEETING OF THE AMERICAN RHINOLOGIAL ASSOCIATION will be held at Lexington, Ky., October 6, 1885. Papers and Discussions will be devoted exclusively to the Diseases of the Nasal Passages and their sequences.

Officers for 1885.—President, P. W. Logan, M.D., Knoxville, Tenn.; 1st Vice-President, A. DeVilbiss, M.D., Toledo, Ohio; 2d Vice-President, J. A. Stucky, M.D., Lexington, Ky.; Recording Secretary, C. A. Sims, M.D., St. Joseph, Mo.; Librarian, N. R. Gordon, M.D., Springfield, Ill.

Council.—J. G. Carpenter, M.D., Stanford, Ky.; H. Jerard, M.D., East Lynne, Mo.; H. Christopher, M.D., St. Joseph, Mo.; E. F. Henderson, M.D., Los Angeles, Cal.

Information concerning the full programme, membership, papers, attendance, etc., may be learned from any of the above officers of the Association.

C. A. S. SIMS, M.D.,
Recording Secretary.

WILLIAM HARVEY'S LECTURES.—Fac simile reproductions are to be published in London of the original manuscripts of the lectures delivered by William Harvey before the Royal College of Physicians in 1616, which were discovered a few years ago in the British Museum.

BOSTON'S POLLUTED WATER.—BOSTON, Sept. 5.—The investigation of the water supply from Sudbury River and Cochituate has been concluded by the Norfolk and Suffolk Medical Society, and their report shows a serious pollution of the supply by sewage. It says that the water of Cochituate, which is the chief source of supply for Boston, is more dangerous to health than the Mystic water, and is daily growing worse. An analysis of the Cochituate water shows that by comparison with the water supplied to fourteen other cities, Boston's water contains the largest proportion of free ammonia and albuminoid ammonia, the products of sewage contamination.

A HEIDELBERG STUDENT'S DUEL.—MILWAUKEE, Wis., Aug. 23.—A few weeks ago a cable dispatch from Germany announced that Dr. Frederick Adler, a promising young physician, who was completing his education at Heidelberg, was seriously ill. A second dispatch, a few days later, announced the death of the young man. Dr. Adler was a son of David Adler, of this city, one of the richest and most respected citizens of Milwaukee. For three years he had been at the Heidelberg University. The body was embalmed and started on its homeward journey, and reached here last week. Before the interment took place a wound over the eye of young Adler led to an investigation, which resulted in the startling discovery that the young man had been killed. The family refused to talk about the matter, but some one who has just arrived from Germany brings the news that Adler was killed in a duel.

NEGROES OF EXTREME AGE.—On the 15th of August there died at Vicksburg, Miss., Ann Hogan, a negress, said to be 120 years old. Her hair was three feet long, and a sample of it was on exhibition at the World's Fair in New Orleans.

George Hughes, a negro, died at Elberton, Ga., on the 2d of September, at the age of 115. It is stated that he worked on the Richmond Canal eighty years ago, and that he was at that time the father of ten children. He was beardless and of small stature, and this enabled his master to sell him when sixty years old for a boy of fifteen.

APOTHECARIES IN CONVENTION.—During the week ending September 12, no less than three bodies of druggists held their annual meetings in Pittsburgh, viz.: The Pennsylvania State Board of Pharmacy, the National Retail Druggists' Association, and the American Pharmaceutical Association.

DEATH OF THE LARGEST WOMAN IN AMERICA.—Mrs. Emma M. Markley, who was credited with being the heaviest woman in the country, died at her home in Philadelphia on the 1st of September, at the age of thirty-three years. When she was nineteen years old she is said to have weighed only ninety pounds; but from that time she began gradually to gain in flesh until some four years ago, when she weighed two hundred and eighty pounds. Since then her weight has increased rapidly, until at the time of her death it amounted to five hundred and fifty pounds. At a "Fat Woman's Congress," held in Philadelphia last winter, she easily bore off the first prize; and not long before her death the following measurements of different parts of her body were taken: circumference of arm at the biceps, thirty-six inches; measurement around the waist, sixty-two and one-half inches; distance across the shoulders, three feet, one-half inch; distance across the hips, four feet. The coffin in which she was buried was constructed of three-inch walnut planks, and was stoutly braced on the inside with a dozen heavy iron bars. It was six feet, ten inches long, forty-six inches wide, and three feet deep.

AN EDITOR'S LOSS.—On Sunday evening, July 12, a fire broke out in the office of the *New England Medical Monthly*, at Sandy Hook, Conn., and before it could be subdued all of the journal's exchanges, a large quantity of matter ready for the press, and the books and manuscripts used in the preparation of the "Medical History of Connecticut," on which Dr. Wile, the editor, is engaged, were destroyed. He certainly deserves a great deal of sympathy in this misfortune.

THE AMERICAN DERMATOLOGICAL ASSOCIATION.—The ninth annual meeting of this society was held at the Indian Harbor Hotel, Greenwich, Conn., August 26, 27, and 28, and among the papers read were the following: "A Case of Tuberculo-Ulcerative Syphilide of Hereditary Origin," by Dr. J. E. Graham, of Toronto, Canada; "Clinical Notes on Psoriasis," by Dr. F. B. Greenough, of Boston; "Cases of Angioma Pigmentosum," by Dr. J. C. White, of Boston; "The Relations of Lupus Vulgaris to Tuberculosis," by Dr. J. Nevins Hyde, of Chicago; "The Treatment of Lupus by Parasiticides," by Dr. J. C. White, of Boston; "The Treatment of Port Wine Mark by Electrolysis," by Dr. W. A. Hardaway, of St. Louis; "Remarks on a Mooted Point in the Etiology of Psoriasis," by Dr. S. Sherwell, of Brooklyn; "Two Cases of Dysidrosis," by Dr. G. H. Fox, of New York; "Mycological Studies in Tinea Favosa and Tinea Tricophytina," by Dr. A. R. Robinson, of New York, "The Structure of the Derma and the Development of Elastic Tissue in It," by Dr. C. Heitzmann, of New York; "A Case of Multiple Myomata of the Skin, Accompanied by Severe Pain," by Dr. W. A. Hardaway, of St. Louis. The following officers were elected for the ensuing year: President, Dr. E. Wigglesworth, of Boston; Vice-Presidents, Dr. I. E. Atkinson, of Baltimore, and Dr. A. R. Robinson, of New York; Secretary, Dr. G. H. Tilden, of Boston; Treasurer, Dr. H. W. Stilwagon, of Philadelphia.

GOOD NEWS FOR PREGNANT WOMEN.—Mr. John Bland has been letting his mind dwell on the case of women who have the misfortune to have to bear children in cold or temperate climates, as compared with their luckier sisters who have to discharge the same duty in the south of Europe or in Africa. He assumes that much of the difference is due to the mere difference of climate—the warm climate relaxing the tissues, and *vice versa*. Upon this basis he has constructed a box with a heating apparatus, in which he proposes to place the lower part of the woman in labor. The heat of this box, he thinks, will bring the woman, at least in the lower part of the body, to the advantageous position of her more southern sisters. Again, it appears that a lady at the last Exhibition in Paris, in the seventh or eighth month of pregnancy, went up in a captive balloon, and before they could descend accomplished the whole of labor, including the expulsion of the placenta. He attributes this not to the fright of the lady, but to the diminution of atmospheric pressure. He has therefore included in his invention a provision for exhausting the box of air on the approach of a pain. The process of labor is to be watched through a window. Mr. Bland frankly tells us he is not a medical man. We might have guessed as much; otherwise he would not have troubled himself to spin such fine theories on a process which Providence has not made pleasant in any country, and which is not likely, we fear, to be much influenced one way or the other by his box. A much more effective way to test Mr. Bland's benevolent views would be to hire a Turkish bath, and use it for first labors for a few months, or to engage a few captive balloons and place them at the service of the maternity hospitals!—*Lancet.*

AN ACCIDENT IN A PARIS HOSPITAL.—A deplorable mistake was lately made at the St. Louis Hospital, in Paris, which resulted in the death of two patients. According to the account given in the *Progrès Médical*, a preparation popularly termed *eau-de-vie allemande*, which is a compound tincture of jalap, was ordered by the physician, but the pupil on duty in the pharmacy put up *gouttes amères de Beaumé* instead, the latter being a mixture containing ignatia. The pupil is described as having been wild with despair when he learned of the fatal consequences of his error, and another account states that it was with difficulty that he was prevented from committing suicide. *Progrès Médical* is probably correct in its suggestion that the "reactionary" newspapers would have been loud in their outcries if the affair had happened in one of the hospitals where lay officials are employed.—*N. Y. Medical Journal.*

A ROYAL MEDICAL PRACTITIONER.—Prince Ludwig Ferdinand of Bavaria, son-in-law of the Queen of Spain, who obtained the degree of Doctor of Medicine at Munich last year, is now practicing at Nymphenburg, Bavaria.

DEATH OF DR. CUNNINGHAM.—Dr. Francis D. Cunningham, one of the most eminent and popular physicians of Richmond, Va., died September 9, at the age of forty-nine years. Dr. Cunningham was the son of Dr. John A. Cunningham, and was born in Goochland County, Va. He graduated from the Medical College of Virginia in 1857, and afterward attended lectures in the medical department of the University of New York, and was for a time Resident Surgeon at the Brooklyn City Hospital. During 1859 and 1860 he continued his professional studies in London and Paris, and in 1861 he began practice in partnership with his father. In 1870 he succeeded to his father's practice, which his own reputation as an ophthalmic surgeon had materially increased. Dr. Cunningham was a member of the Richmond Academy of Medicine, of which he was President in 1872; of the Virginia State Medical Society, of which he was President in 1875; of the American Medical Association; and of the American Public Health Association. He served as Professor of Anatomy in the Medical College of Virginia from 1867 to the time of his death. During the Rebellion he was a surgeon in the Confederate army, and in 1862 and 1863 he was Medical Director of the Trans-Mississippi Department.

DEATH OF DR. D. H. GREGG.—Dr. D. H. Gregg, a wealthy citizen of King William County, Va., was found dead from apoplexy at a hotel in Richmond, on August 25. He was in the eighty-fourth year of his age, and was a native of Boston and a graduate of Harvard. He came to Virginia when quite young. An examination of his papers brought to light a will which made various bequests, amounting to about $50,000. A codicil leaves the residue of his estate, amounting to from $100,000 to $150,000, to St. Joseph's Female Orphan Catholic institution of Richmond, the interest to be devoted to the education of female children, of Caucasian race, without regard to religion or nationality.—*Medical and Surgical Reporter.*

DEATH OF DR. W. K. BOWLING.—Dr. W. K. Bowling, of Nashville, Tenn., died August 6, aged seventy-seven. He was an ex-president of the American Medical Association, the originator and for many years editor of the *Nashville Medical Journal*, and teacher of practical medicine for a long time in the medical department, University of Nashville.

CREMATIONS AT LANCASTER, PA.—The body of Dr. John F. Evans, of Downington, Pa., was cremated August 27. Dr. Evans was a well-known physician, and he died August 24 of cancer. He was born in East Coventry Township, Chester County, and was sixty-seven years of age. He graduated at Jefferson Medical College, Philadelphia, in 1845, practiced in Pottstown, went to California in 1849, was in the Surgeon-General's department at Washington during the war, and afterward practiced in Downingtown until failing health compelled his retirement. The body of the Hon. Christian Kieffer, ex-Mayor of Lancaster, was cremated September 7.

A DRUGGIST'S MISTAKE.—The inquest in the case of Gretchen Holz, who, with her sister Ella, lost her life through a mistake of druggist Charles Am Ende, has been concluded by Coroner Haughey, of Hoboken. The verdict of the jury was "that the deceased came to her death by taking morphine instead of quinine, given through the criminal carelessness of Charles G. Am Ende." Am Ende is under bail to await the action of the Grand Jury on a charge of manslaughter, preferred by the father of the dead girls.

NOVEL SYSTEM OF DRAINAGE. — Albany, Ga., has been ingeniously relieved of what has long been a troublesome nuisance to her in the shape of a stagnant pond of water, which covered from one to two acres. The *News and Advertiser* says that it was all cleared off, and the bottom made perfectly dry, by Captain J. G. Stephens, the faithful and efficient chairman of the Street Committee of the present City Council, who had a derrick and windlass erected near the edge of the pond, and put a force of hands to drilling a hole into the ground, on the same principle that artesian wells are bored. His object was to find a subterranean stream or passage, into which the pond could be drained. Such a passage was found at a depth of thirty-three feet, and then a square well was dug down to it and curbed all the way. Everything being ready, a ditch was dug, and the water from the pond was turned into the well. It ran in through a twelve-inch terra-cotta pipe at the rate of about six hundred gallons per minute, and disappeared as fast as it reached the bottom of the well. —*Sanitarian.*

DEATH OF PROFESSOR FEHLING.—Dr. Fehling, of Stuttgart, well known for his invention of the celebrated sugar test which bears his name, died on July 1, in his seventy-third year.

EDITORIALS.

Mr. Lawson Tait on the Modern Treatment of Uterine Myomata.—It is to be feared that the paper on the "Modern Treatment of Uterine Myomata," read by Mr. Tait in the Section of Obstetric Medicine at the recent meeting of the British Medical Association at Cardiff, will be productive of a vast amount of mischief. The teachings embodied in it, coming, as they do, from a master of such acknowledged ability and so eminent a position, will naturally have much greater weight than if they originated from an obscurer source; and if they are adopted to any extent by the profession at large, the result cannot but be most disastrous. As far as can be judged from the sentiments expressed in the paper, the conclusion arrived at seems to be that there is but one thing alone to be done in all cases of uterine myoma, viz., the removal of the uterine appendages, and that this constitutes the "modern," and, Mr. Tait would add, the "rational" treatment of this affection.

By way of showing the necessity of calling the renewed attention of his professional brethren to this subject, he relates the following incident, which occurred a short time since in his consulting rooms.

"Two ladies from a northern city were shown in by my servant. They were clearly sisters. One had a terribly anæmic face, whilst the other had the appearance of robust health. They were respectively thirty-eight and thirty-six years of age; and, to my surprise, it was the younger and healthy-looking woman who was announced as the patient. She had come to consult me about an abdominal tumor, which I found to be a soft myoma, reaching almost to the ensiform cartilage. During the simple examination, the elder sister became so ill that I had to supply her with a stimulant and send her out of the room. After my interview with the younger sister, the elder asked that she also might consult me, though she had no intention of doing so when they came. I found her condition due to a small bleeding myoma, for which she had been treated by one of the most eminent gynæcologists by tonics and pessaries for some years without the slightest benefit. The younger had seen many specialists, and had been advised to let her tumor alone; and, therefore, I had in my room at the same time two women, sisters, and both in the process of dying from a disease which is said to be not fatal to any extent, to be less fatal than the operations performed for its cure; to constitute, in fact, merely 'a lump in the womb of no consequence whatever.'"

In commenting on this incident Mr. Tait appears to mildly intimate that Lawson Tait is the one great gynæcological surgeon of all time, while the rest of the medical profession at the present day are for the most part merely bigoted ignoramuses. "In my opinion," he says, "these two women afforded examples of a state of professional ignorance and prejudice which is a disgrace alike to the time in which we live, and to the condition at which the art and science of surgery has arrived." Notwithstanding that one of these patients was so extremely anæmic-looking and weak, and that the other "had the appearance of robust health," he states that both of them should have had their uterine appendages removed years before. It seems indeed strange that an operation of such a serious character as oöphorectomy should be advised indiscriminately in cases of such different character. He explains, however, that "these two women give perfect illustrations of the different ways in which uterine myoma kills the elder by exhaustive bleedings, and the other by the rapid growth of a deadly (?) tumor." Neither of them, he thinks, could by any possibility live five years longer; but he does not state upon what data he bases this prediction in regard to the younger sister. Unless the tumor is of a sarcomatous nature, and likely to prove fatal under any circumstances (which is not intimated), the chances are apparently all in favor of the patient's living indefinitely, without operative interference, since at the age of thirty-six the myoma has already existed for a number of years, and the lady still presents the appearance not simply of fair, but of *robust* health. It would certainly seem to be sound surgery not to resort to radical measures in such a case until the disease actually threatened the patient's life.

The remarkable success of Mr. Tait in the removal of the uterine appendages in cases of myoma, as demonstrated by the results shown in this paper, and his preceding one published in the *American Journal of the Medical Sciences* in 1882, proves that a most gratifying advance has been made by him in the treatment of alarming cases of this affection, of which any surgeon might well be proud ; but the danger is that his very success will lead to the abuse of the operation, as has already been the case in certain quarters with this same procedure in connection with tubal, or supposed tubal disease. All authorities agree that uterine myoma is only very rarely a dangerous affection, when the extreme frequency of the trouble is considered. Bayle estimated that of all women dying beyond thirty-five years of age, twenty per cent. were thus affected*, and if Mr. Tait had ever practiced the profession of medicine in the southern United States, he would have found that the presence of fibroid tumors was almost rather the rule than the exception among the negresses. Yet these women, as a rule, enjoy a very fair amount of health, and instances of extreme longevity are by no means infrequent among them. In his recent work on Hysterectomy for Fibrous Tumors of the Abdomen, constituting Part I. of his "Contributions to the Surgical Treatment of Tumors of the Abdomen," so eminent and experienced a surgeon as Dr. Thomas Keith states that he has watched cases of uterine fibroids for years, and has never once met with a fatal case of hemorrhage in his own practice; though he admits that such growths may indirectly be the cause of death in other ways oftener than is believed. The same author expresses the opinion that oöphorectomy is an extremely difficult, if not impossible, operation when a uterine tumor has grown large, and that it may be excessively difficult and dangerous even when the tumor has not grown large, through adhesions binding the appendages to the pelvis or intestines, and other complications. The fact ought to be emphasized, he says, that a large number of recorded hysterectomies were meant to be oöphorectomies when the patients were placed upon the operating-table. The uterus had to be removed in such cases, on account of the impossibility of removal of the appendages alone without any great risks of uncontrollable hemorrhage.

In the discussion which followed the reading of Mr. Tait's paper at Cardiff Dr. Playfair said, very pertinently, that what was really wanted was some information as to what the precise indications for his operation were, and what ought to be called sufficient prostration to justify it. If the tumor were not producing bleeding, and the patient were strong and well, he could not see why she should be subjected to such risk, especially as in the larger tumors there would be a chance of having to remove all the tumor. In an able article on Mr. Tait's paper the *British Medical Journal* thus succinctly states some of the objections to his operation in uterine myoma:

First, the operation is very difficult. Even those who have performed numerous abdominal sections admit that their first oöphorectomy was a much harder task than they expected. It is hard to say which is the most troublesome, to get a small diseased ovary adherent to pelvic structures, or to secure the pedicle of an ovary attached to a large myoma. The latter only is the condition pertinent to the present question. Practice shows that securing the pedicle of the ovary in this case, so as to insure against all risk of hemorrhage, is never easy, and often impossible, so that a contemplated oöphorectomy has had to be converted into a hysterectomy. Then it is sometimes very difficult to remove all the ovarian tissues on both sides; and, unless this be done, the operation is almost certain to fail in its object. Then, after oöphorectomy, the patient has often to wait a long time till the tumor has subsided, nor does this subsidence invariably take place.

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*Thomas on Diseases of Women.

Still others are enumerated in the following summary at the conclusion of an editorial on the same subject in the *Journal of the American Medical Association:*

I. The operation is usually difficult, sometimes impossible.

II. It is not always possible to remove all the ovarian tissue on both sides. Unless this be done, the operation usually fails of its object.

III. After removal of the appendages, the patient must wait a long time for the subsidence of the tumor. Sometimes the tumor remains unchanged, and exercises its untoward influences in the way of mechanical pressure, and a certain ill-defined pernicious constitutional effect.

IV. No living operator has approximated the success of Mr. Lawson Tait.

V. A limited number of cases recover completely under judicious medication.

VI. In a certain proportion of cases, the tumor disappears spontaneously, or remains quiescent.

VII. Finally, after removal of all ovarian tissue, the tumor may continue to grow.

To this it might be added that a very large number of women who have uterine fibroids, pass through life without suffering the slightest inconvenience from them in any way, even in cases where a considerable number exist in the same individual.

PHYSIO-MEDICAL WISDOM.—The following eloquent passage is taken from a learned address delivered by "Dr." J. M. Thurston, at the last Commencement of the "Physio-Medical" College of Indiana:

"I ought to read a long, learned, and laboriously prepared discourse on the traditions and dignity of the profession, and descant on the brilliant achievements of modern scientific medicine and surgery, and tell you of the opthalmoscope, the otoscope, laryngoscope, stethoscope and the no-end-o scope; but I am afraid I might excite your wonderment to such a pitch that questions would arise in your minds, and they might be queries something like this: 'How is it that your great science of surgery probed and syringed a puss (hic) sinus for months, till a great people lost a great president from a pistol ball in his back, not two inches from the surface?' Or, like this: 'Can your great science of modern medicine give us no remedy for our grand old war hero at New York? Must the man who lead the greatest people on earth through the red sea of a terrific internal war, and out of the howling wilderness of a bitter and stubborn rebellion into the arcadian province of white robed peace, must this brave man who faced shot and shell, and, with his 'head-quarters in the saddle,' faught (hic) it out on that line till crushed rebellion laid in death-throes at his feet, now be shot to death with a hypodermic syringe?' 'Must your magnificent medical science meekly fold up its vast armamentarium and quietly ease the savior of our Union into eternity with morphine?'"

These glowing sentences, it is confidently believed, will only whet the appetite of our readers for more, and by the time they have perused the pregnant paragraphs of the choice passage which is now to be presented to them, there can be little doubt that every one of them will be panting to throw his surgical instruments and hypodermic syringes into the fire, to burn all the drug-shops to the ground as public pests, and, leaving the paths of darkness in which he has hitherto trod, enlist under the enlightened and glorious banners of physio-medical science. These extracts are taken from another address delivered at the same Commencement by "Dr." B. F. Childs:

"You can't tell when you are safe in the hands of men that use such deadly agents. Morphia and atropine are agents that God Almighty never intended should be given to his creatures. The physicians of that school take the position that quantity alters quality; what is poisonous in large doses is non-poisonous in small ones. We take the position that quality remains unchanged, no difference whether the quantity be increased or diminished. We take the position that poisonous agents, in their operation, are always against nature, and consequently are not suitable agents to give to relieve a system already laden with poisonous materials in the form of disease. We claim that disease is only a departure from the healthy standard, and regard it as extremely dangerous to add the additional load of poison, for thereby we incur the risk of driving the diseased organ further from the healthy standard. * * *

"Our men must keep in view the fact that our superior means of applying relief is fast placing us in the foremost ranks. This alone should stimulate beginners to push forward. Because we can relieve suffering quicker and more permanently than our unfortunate professional brethren, should we sit lazily down and trust to what is already done? By no means. Ours is a new addition to the practice of medicine. Something that never existed before. A system founded upon a scientific basis—a system that can demonstrate every principle in her platform by well attested facts, and her superiority over all other systems at the bedside of the sick man.

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THE BACILLUS OF SYPHILIS.—The question of the discovery of a specific micro-organism in syphilis seems again to be thrown into very serious doubt. Commenting on the recent investigations by MM. Alvarès and Favel, at M. Cornil's laboratory, into the alleged syphilis bacillus pointed out by Lustgarten, as described in the *Progrès Médicale*, of August 22, the *Lancet* says:

"They aver that there exists in certain normal secretions a bacillus not hitherto described, identical in its shape and staining reactions with that described by Lustgarten as special to syphilis. It is possible that the bacillus found by that observer in sections of syphilitic lesions and in syphilitic secretions is merely this common bacillus. The microbe strongly resembles the bacillus of tuberculosis, and yields many of the staining reactions hitherto considered as special to Koch's bacillus and to that of leprosy. It is distinguished from the bacillus tuberculosis, apart from its slighter thickness and its less granular appearance—conditions difficult to appreciate at a single examination—by its less resistance to alcohol after staining with fuchsine and treatment by nitric acid, and also by its not being stained by Ehrlich's method with methyl-violet. The clinical diagnosis of tuberculosis by means of the histological examination of secretions should be made in view of these facts."

WAS THE DIAGNOSIS A CORRECT ONE?—The *Lancet* of July 25 reports a fatal case of alleged Asiatic cholera which occurred at Lambeth Infirmary under the care of Dr. R. H. Lloyd, Medical Superintendent, the patient being attacked at 3 A.M., July 29, and dying at 4 P.M., August 1, 1884. The symptoms are given in detail, and the description is quoted in the Philadelphia *Medical and Surgical Reporter*, of September 5, 1885, as that of a typical case of Asiatic cholera, which was the diagnosis made by Sir James Fayrer, who saw the patient with Dr. Lloyd.

That this diagnosis was correct there seems to be very strong reason to doubt. It may be admitted that the symptoms corresponded in the main with those met with in cases of true Asiatic cholera, occurring in localities where that disease is epidemic, though the evacuations do not appear to have been by any means of a typical character. All through July 29, the stools were of a dark color, and it is not until 6 P.M., on July 30, that they are spoken of as being light-colored, though it is not mentioned that they presented the characteristic "rice-water" appearance. Even at this late period they are described as offensive, while almost invariably, in Asiatic cholera, the fæces have but little odor.

The grounds upon which the diagnosis can be disputed may be stated as follows: In the first place, the symptoms as reported do not differ in any way from those liable to occur, and more or less frequently seen in very severe cases of sporadic cholera or cholera morbus. In the second place, the presence of Koch's cholera bacillus was not demonstrated in the contents of the intestinal tract either during life or after death, no microscopical examination whatever having apparently been made. It is from a diagnostic point of view that Koch's great discovery, up to the present times, at all events, appears to be of the greatest practical value.

Third, the patient had not been exposed to the contagion of Asiatic cholera. The man had been an inmate of the Lambeth Workhouse from June 16, 1884, and had not been out of the building for even an hour during that period. As far as could be ascertained, none of the men who slept in the same ward had been to the docks, or been engaged in any ship, or had had communication with the Continent.

Fourth, no other case presenting such symptoms occurred at the time or afterwards. Of course, the last point affords no positive view for argument, but it is valuable as corroborative evidence.

SPECIAL NOTICE.—All physicians subscribing now for this journal for 1886, will receive the October, November, and December numbers for 1885 free of cost. The subscribers will confer a favor by making this fact generally known.

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ORIGINAL ARTICLES.

ARTICLE I.—DIFFUSE, INTERSTITIAL, PARENCHYMATOUS, OR SYPHILITIC KERATITIS. By J. HERBERT CLAIBORNE, Jr., M. D., Instructor in Ophthalmology in the New York Polyclinic.

In order clearly to comprehend the pathology and therapeutics of interstitial keratitis, it is no less important to know the minute structure of the part involved than the etiology of the disease. We know that the cornea is the continuation forward of the sclera and forms a segment of a smaller circle. While the sclera is a white and practically opaque structure, the cornea is perfectly transparent and is the window of the eye through which rays of light pass inward to the sensitive, visual tunic. The pupil simply regulates the quantity of light needed for the visual perception. If we commence from without with the minute anatomy of the cornea, we have first three layers of epithelial cells, an external, a middle, and an internal layer. The external and middle layers are several cells deep, and each cell presents a nucleus and a nucleolus. Each cell is bound to its fellow, and each layer to its fellow layer, by a transparent protoplasmatic cement-substance.

The cells of the external layer are flattened and present no offsets; the cells of the middle layer are less flattened, somewhat round, and present offsets of two kinds: the smaller which cover the whole surface of the cell and interlace with each other, the larger which cover only the inner surface of the cell and dip into the interstices of the following layer.

The cells of the innermost layer, which is only one cell deep, present a variety of forms, but on the whole are cylindrical and long. Occasionally they present notches to receive the long, large processes of the middle layer. Just within this layer of epithelial cells is Bowman's membrane, a transparent, homogeneous, vitreous structure, lying next to and not separable from the within-lying corneal tissue proper. The weight of authority agrees in considering this condensed parenchyma of the cornea.

Proceeding further inward, we next reach the corneal tissue proper, or parenchyma. It is composed of fibrillar connective tissue. The ultimate fibrillæ unite to form fascicles, and the fascicles unite to form lamellæ.

The lamellæ lie, as a rule, parallel to the surface of the cornea. In this structure, also, the same protoplasmatic cement-substance unites the various elements to each other. While these structures form the parenchyma, we have in its midst certain canals, known as the corneal canals or lymph-spaces, in which the nutritive plasma of the blood circulates. These canals occasionally intersect each other at varying angles and form lacunæ, or lakes. In addition to the nutritive plasma, these canals and lacunæ contain also fixed corneal cells, leucocytes, or wandering white blood corpuscles, and pigment cells. Lining the inner surface of the corneal tissue proper is a transparent, homogeneous, vitreous structure, called Descemet's membrane. It resembles Bowman's membrane somewhat, but differs from it in that it contains some elastic fibres and is separate and separable from the parenchyma (Alt). Lining the inner surface of Descemet's membrane, and forming the anterior boundary of the anterior chamber, is a single layer of endothelial cells, many-shaped, and held together by the same protoplasmatic cement-substance.

All writers recognize two varieties of this affection: the *diffuse vascular*, and the *diffuse non-vascular keratitis*. The difference depends upon the formation or non-formation of vessels in the parenchyma. Barring the presence or absence of these vessels, the symptoms of the two are sufficiently alike to demand no separate consideration. The invasion of the disease is characterized by more or less lachrymation, photophobia, circumcorneal injection, and ciliary neuralgia. These symptoms may last for varying lengths of time; not unfrequently they disappear entirely after a number of weeks. Both eyes may be attacked simultaneously, or first one, and then the other a week or two later. In the vascular form the infiltration points commence at the periphery, and, gradually coalescing, advance toward the centre, where it becomes densest and presents a yellowish color. In the non-vascular form the infiltration appears first in the centre, dense and yellowish in color, and gradually fades off toward the periphery. At a superficial glance the infiltration presents a uniformly dense white appearance, which has been variously likened to ground glass, frosted glass, or to a mirror tarnished by the breath.

On more careful examination by the oblique illumination, it will be seen that this diffuse whiteness is really made up of a great number of small punctate infiltrations crowded together and situated deep in the parenchyma. Generally the corneal epithelium covering the infiltration is smooth and unaffected, but occasionally we find in it small round swellings, elevated above the general surface; or the whole epithelium over the infiltration may be proliferated and present a smooth aspect. Nature begins the process of repair by sending vessels into the parenchyma to carry off the products of the inflammation. These vessels may be seen forming dusky or dark red bands at the periphery. It can easily be seen that the vessels are situated deep in the cornea. They are formed from the episcleral and subconjunctival together with some of the ciliary vessels. Protoplasmatic offshoots are sent inward, which become perforated by a canal lined with endothelium; and this endothelium constitutes their only tunic. The vessels may extend to the centre, or they may stop short of it. They generally occur in patches, but may extend around the entire periphery.

Iritis is by no means an infrequent complication of diffuse keratitis, perhaps from the fact that the iris participates in the corneal inflammation, by contiguity of tissue, perhaps from the fact that the same taint that causes the corneal disease causes the iritis. It is often impossible to tell, when the opacity is dense, whether the iris is affected.

Irido-cyclitis is spoken of as a possible and very unfortunate complication.

In regard to the pathology, we find the corneal parenchyma, and particularly the canals and lacunæ, densely crowded with wandering white blood cells or leucocytes. Now we must bear in mind that there are physiologically a few white blood cells in the canals and lacunæ; they are, however, in this pathological condition greatly increased in number. As in all inflammation, there is a certain degree of serous infiltration. The deep portions of the cornea are generally involved, although the process may be somewhat superficial also.

Occasionally there is sclerosis of the corneal tissue.

Arlt says that only when the sclero-corneal tissue is involved is there apt to be sclerosis. We are convinced that we have seen it clinically in the centre of the cornea.

As a rule the prognosis is good. There is no tendency to the formation of pus in the natural course of the disease. Absorption of the products of the inflammation is the rule. The time at which the case is seen, and the treatment, certainly modify the ultimate result. Some hold, however, that treatment can do nothing to stop the process, since the disease is self-limited.

Six or seven weeks, according to some writers, is the length of duration of the disease. We have never seen a case last a shorter time than four, and we have seen some prolonged to twelve months.

The disease occurs between the ages of five and twenty, and has been observed as late as forty.

Mr. Wells disagrees with the majority of authors in regard to the etiology of diffuse keratitis. He does not believe that it is due to inherited syphilis; he has often seen it coupled with syphilis; he has also seen it in scrofulous patients and in people whose vitality was impaired by "long deprivation and want." He lays great stress upon the fact that often no other symptom of syphilis can be found and that no syphilitic history can be obtained. He is inclined to think that the benefit of the doubt should be given the patient.

The patient should certainly have the benefit of the doubt, but the doubt should be in favor of syphilis, and treatment should be instituted accordingly. It has been pointed out that the crucial test is the condition of the middle upper incisor, which, in cases of inherited syphilis, often present a crescentic notch, due to atrophy of the middle lobe—the so-called Hutchinson teeth. This is undoubtedly a pathognomonic symptom of inherited syphilis, but who has not seen the Hutchinson teeth without eye symptoms, and vice versâ?

We have in mind the case of a young man about twenty-two years old, who has, in addition to diffuse keratitis in both eyes, the destruction of the velum from acquired syphilis. He was for a time unable to find his way alone to the clinic, and hence was accompanied by his sister. Her upper middle incisors presented the typical atrophy of the central lobes. His incisors are perfectly sound, and according to her brother's statement she has never had any eye trouble. We could discover no traces of eye disease in her case. Although the physical signs of scrofula and inherited syphilis can be clearly separated, there are not a few to hold that scrofula is nothing more nor less than inherited syphilis. Abadie, of Paris, has lately pointed out that many manifestations of scrofulosis can be cured by the employment of anti-syphilitic treatment.

He cites many interesting cases in which, anti-scrofulous treatment having been employed without benefit, recovery was speedy under the energetic exhibition of the salts of mercury and the iodide of potassium, singly and in combination. We ourselves have seen true phlyctenular keratitis coupled with the Hutchinson teeth.

We may divide the treatment, as in all surgical diseases, into local and constitutional.

In the local treatment no more important element than the character of the applications comes under consideration. Cold applications are not borne in this disease; warm applications, since they promote vascularity, and so tend to cause absorption of the infiltration, is the treatment *par excellence.* Too much stress cannot be laid upon this. If, however, after long continued applications, blepharitis is gotten up, we may stop all applications, or even make cold ones, for the purpose of reducing this acute inflammation.

Water is undoubtedly the cheapest, cleanest, and most easily obtained vehicle of heat. Many advise the use of poppy and other collyria. With a view to antisepsis, we may use a warm solution of boric acid. We do not believe, however, that this is necessary. We usually advise patients to get absorbent cotton, and, stooping over a basin, to bathe the eyes with a large wad of it for half an hour at least. Two applications a day are usually sufficient.

Above all things, astringent applications should be avoided. Any such harsh treatment will be apt to bring on necrosis of the cornea.

Apropos of warm applications, it will not be amiss to observe that, if continued for a long while, they will often cause granulations. One who sees it for the first time might be led into the belief that his patient had suddenly developed a case of granular conjunctivitis, and might treat him accordingly. They disappear on the discontinuance of the warm applications. They do not affect the cornea, as in trachoma. Since we have seen that the iris is apt to become involved, we undoubtedly have atropine as another indication. We have seen cases which progressed slowly for a long time suddenly commence to improve under the continued use of atropine. Since atropine is an irritant to the conjunctiva, it has been suggested that instead of instilling a weak solution frequently into the eyes, a strong solution (three per cent.) be instilled once in several days. We would advise then the use of atropine in all cases, both as an important factor in the cure of the disease and as a preventive measure against iritis.

We not infrequently prescribe a saturated solution of boric acid (gr. xv.—℥i.) to be dropped into the eye several times a day, both as a placebo and as an antiseptic to prevent possible infection. A weak ointment of the yellow oxide of mercury has been greatly recommended.

Wells particularly regards the yellow oxide as an excellent agent in promoting and hastening the absorption of the infiltration when the cornea has commenced to clear up. He also advises in this stage the insufflation of calomel. Unless the yellow oxide ointment is gotten between the lids, and so on the cornea, no good can be obtained. Writers generally fail to lay stress upon this point.

In all these cases some salt of iodine is generally prescribed internally; and it has been quite conclusively shown that under these circumstances, when calomel is dusted into the conjunctival sac, the biniodide and the green iodide of mercury are formed both in the sac and in the general circulation. We know that the calomel treatment it employed by many. In the light of the above-mentioned fact and some unpleasant experiences, we cannot advise it as a measure. Wells advises leeches and paracentesis corneæ when the ciliary body is involved; also he has obtained good results in obstinate cases from a seton in the temple.

Bull is very much in favor of massage, and thinks it well to combine with it the use of the yellow oxide of mercury. We have used cocaine without observing any other beneficial effect than the dilatation of the pupil. The rationale of the action of the drug would seem to contraindicate its use. Iridectomy has been employed with much success in checking the progress of the disease. In regard to constitutional treatment such hygienic and dietetic measures should be advised as are useful in building up the system and tend to eradicate dyscrasia by forming new blood corpuscles. Wells, since he does not believe in the syphilitic origin of the disease, does not prescribe the iodide of potassium or the salts of mercury; but, holding that its origin is scrofulous, gives cod-liver oil, iodide of iron, steel, quinine, etc. He thinks, however, that when a syphilitic taint is *suspected*, the iodide and the bromide of potassium should be exhibited.

He is highly in favor of generous diet, and even prescribes wine and the malt liquors; also a change of scene, the seaside or the country, is advisable. Our cases of diffuse keratitis usually occur in hospital and dispensary practice, and hence it is difficult to give them a classical treatment. As stated, Abadie is clearly in favor of the specific nature of the disease. His method of treatment is not to hold too closely to one agent, but to change frequently between the iodide of potassium and the salts of mercury. He seems to have been especially successful with hypodermic injections of the peptonate of mercury. According to most authors, its course is self-limited, and, therefore, it would seem that all medicine save tonics would be useless. If, however, its cause be syphilis, we are at least warranted in using anti-syphilitic measures.

Even when the cases recover under treatment, we can not say definitely whether it is *post hoc* or *propter hoc.*

In our clinic we have had excellent results from three simple measures: warm applications, the instillation of atropine, and the continued exhibition of large doses of the iodide of potassium.

In the preparation of the above paper we have fully consulted Arlt, Wells, and Bull, also Sichel Fils, Nettleship, and others.

ARTICLE II.—HÆMATUROID. By F. C. TICE, M.D., Wellsburg, West Virginia.

W. E. came under my care on the 31st of March, complaining of passing bloody urine. During the War he was in the South, and passed most of his time in the hospital, suffering from malarial poisoning. This was followed by severe attacks of dysentery, resulting in chronic diarrhœa.

The trouble with his urine began in December, '84; micturition occurred from five to seven times in twenty-four hours; there was no pain preceding, accompanying, or following the act, but there occurred, from time to time, severe pain over the kidneys. The urine was at times bright-red, though more frequently of a dark, smoky hue, with reddish tinge, and gave, on standing, a large deposit of a brownish tinge. For this trouble he had been treated, at different times, unsuccessfully, before coming to me.

Upon making an analysis, the reaction was found to be acid; tests for albumen gave negative results. Under the microscope there was entire absence of casts, oil globules, or pus; the field presented two or three scales of bladder epithelium, a little mucus, and innumerable bodies closely resembling blood corpuscles; careful examination, with a power of four hundred diameters, showed that some of these bodies were budding; to about one drachm of the urine was added four minims of a 90 per cent. solution of carbolic acid; in twenty-four hours the deposit had increased, and, under the objective, showed numerous cells, budding, and in various stages of growth.

One drachm of urine, treated with an equal amount of a light wine-colored solution of permanganate of potassium, became much clearer immediately, and in twenty-four hours destruction of many of the cells was observed.

The patient was put upon a tonic mixture, containing tincture ferri chloridi, and his bladder was washed out on alternate days with one quart of the solution of the permanganate. After one week of this treatment the urine would be clear the day after the injection, and as dark as ever on the second day; he was then ordered a mixture containing tincture ferri chloridi and quinia, the injections being continued. After several weeks of this treatment the patient became despondent; the pain over the kidneys had entirely disappeared, and his general health was much improved, but the intermittent dark discharge continued. I then used as an injection a one-fourth per cent. solution of lactic acid (dilute), the last four ounces of which I had him retain for five minutes. This caused considerable pain, lasting about ten minutes, and relieved by an injection of borax, glycerine, and water.

The day after this injection he passed dark masses resembling blood-clots, and a great deal of mucus, after which the urine became much clearer. The permanganate injections were then resumed for ten days, when a second acid injection was used, and three days after a specimen of the urine, which now was and had been, for some days, of a bright yellow color, and sparkling as though carbonated, was placed under the objective and not a single cell found. A few more permanganate injections were used and the patient discharged early in June. His urine continued for a week to have the appearance of a carbonated water, but is now normal. Though I have searched many works, among them that of Dr. Beale, I can find nothing more than a mere reference to "sporules resembling blood corpuscles," as a possible occurrence, but no suggestions as to pathology or treatment.

ARTICLE III.—NASO-PHARYNGEAL CATARRH. By J. G. CARPENTER, M.D., Stanford, Kentucky.

Catarrh is an inflammation of any mucous membrane, though the term is usually applied to inflammation of the upper air passages. It is either acute, chronic, or sub-acute. Acute catarrh either ends in resolution or in the chronic form; sub-acute catarrh may end in resolution, but generally terminates in the chronic. The latter, while it may result from the acute, may occur insidiously.

Naso-pharyngeal catarrh demands earnest attention, because in severe cases it incapacitates the victim from pursuing his avocation. If he is an accountant, for instance, his computations are made with difficulty, and will often be found to contain errors, the mind being wandering and passing rapidly from one subject to another. The catarrhal sufferer is sad and gloomy, and, burdened with many cares and anxieties, he does not enjoy the society of cheerful friends.

Catarrh of the pharyngo-nasal cavities leads to many affections which impair the function of various organs, or cause organic lesions that cannot be repaired. It affects both sexes and all ages, though from statistics we learn that it is more prevalant from ten to thirty years in the female, and from thirty to old age in the male (Rumbold). To fully appreciate the pathology and treatment of catarrh, it will not be unimportant to analyze the different steps of the inflammation. First there is an irritation of the mucous membrane directly, as by inhalation of dust, cold air, or irritating gases, or, reflexly, from wetting the head or feet, or from sudden choking of perspiration. Dilatation of the blood-vessels takes place, resulting in hyperæmia, redness, tumefaction, heat, and pain, and then follow exudation of liquor sanguinis, diapodisis of the leucoytes, infiltration of the connective tissue, cell proliferation and organization of lymph. Finally resolution or suppuration occurs. Acute catarrh has the following local and subjective symptoms: Rhinoscopic examination shows a conjested, red, dry, and swollen appearance of the mucous lining; later on, the dryness gives way to moisture and an abundant secretion of mucus, or muco-pus. The mucous and sub-mucous tissue is œdematous, infiltrated, and thickened, and the glands and follicles are distended and abnormally active. Subjective symptoms are chilliness, headache, dryness of the skin, inactivity of the kidneys, and very often of the bowels, aching of the trunk and limbs, thirst, slight acceleration of pulse, rise of temperature, and the unpleasant sensation of dryness and pain in the naso-pharynx, with the expectoration and discharge of mucus or muco-pus. Should resolution occur, the inflammatory products are absorbed, the blood-vessels contract to their normal size, excessive secretion is arrested, and the mucous surface presents its former healthy appearance. On microscopic examination of the secretion, there are seen white blood and mucous corpuscles, a few red corpuscles, and columnar and tessellated epithelium.

TREATMENT OF ACUTE CATARRH.

A cold should be aborted or checked at once by local and constitutional measures, and not allowed to end in chronic catarrh.

Constitutional treatment consists in regulating the bowels and kidneys, determining an increased circulation of blood to the skin, and the relief of pain. Qunine, grs. iii—x, alone, or in combination with morphiæ sulph., grs. 1-10—¼, or, with pv. opii comp., grs. iii—x (the latter being made with the bromide of potassium instead of the sulphate), should be given every five or ten hours until the affection is checked, then quinine should be given in grs. ii—iii three times a day for a few days as a general tonic and prophylactic. This treatment controls the vaso-motor nerves, arrests local congestion and inflammation, the migration of leucocytes, the formation of pus, and the abundant secretion of mucus, and causes a determination of blood to the skin, and diaphoresis.

When a cold supervenes, especially if it is very severe, the patient should get in bed between two blankets with sufficient extra covering, and have placed between the blankets a tub of water as hot as can be tolerated, in which the feet should be immersed for twenty or thirty minutes. Every five minutes a cup of hot water should be added to maintain the temperature of the water in the tub. At the expiration of half an hour the body will be in a profuse perspiration, and the tub should be removed, while the patient remains carefully wrapped until the perspiration subsides, and the clothing and cutaneous surface are dry. Then the entire body should be annointed with vaseline, cosmoline, olive oil, castor oil or lard, the two former being preferred, as they are cleaner and do not get rancid. The inunction cleanses and purifies the skin and keeps it moist and lubricated, and, in connection with massage, should be continued for several days after subsidence of the acute attack, to harden and fortify the system against colds in the future. The advice of Rumbold is never to wait for a cold to subside spontaneously, but always abort or check it at once; for every cold makes the system more susceptible to future attacks. If a cold is neglected it is apt to eventually end in chronic catarrh. When the throat is very painful, and deglutition is difficult, it will be necessary to use compresses of cold water or ice, or hot fomentations externally, until pain subsides or chilliness of the body is produced. If the kidneys and bowels are inactive, they must receive proper attention.

Tr. belladonna, gtt. i—xv; tr. aconite, gtt. i—v, or atropiæ sulph., gr. 1-120—1-60, alone, or combined with quinine or morphiæ sulph., have proven to be beneficial and trustworthy remedies. Brandy and honey mixture, or lemon and sugar, are excellent remedies for cough and expectoration.

Local treatment consists of applications in the form of a spray to the naso-pharyngeal cavities of medicines which are soothing, non-irritant, cleansing, and mildly astringent. The following remedies have proven to be the best: Vaseline alone, ʒ⅓–ʒj, which is often more soothing and antiphlogistic in acute catarrh than when combined with other remedies. ℞. Acidi carbol. grs. v–x; pini canadensis (Kennedy's), ʒss–iiss; glycerinæ, f.℥jss; aquæ font., ℥vjss. M. Ft. sol. Sig. Dose, gtt. iij–x, mixed with a third to one drachm of vaseline. This is to be melted, and sprayed while warm into the anterior nares, the mouth, and behind the soft palate into the vault and posterior nares with each of Rumbold's spray producers, Nos. 1–5 inclusive.

℞. Acid. carbol. gr. j; pini canadensis (Kennedy's) gtt. v–x; olei eucalypti, gtt. j–iij; glycerinæ, f.ʒij; aq. font. f.℥jss. M. Ft. sol. Sig. Dose, gtt. iij–x with vaseline in form of a warm spray.

℞. Acidi carbol. gr. ¼–j; glycerinæ f.ʒij; aq. font. f.ʒvi. M. Sig. Dose, gtt. v–x, with vaseline in the form of a warm spray.

℞. Vaseline ℥j; acidi carbol. grs. ss–ij. M. Sig. ⅓–ʒj in form of a spray.

℞. Vaseline ℥j; acidi carbol. grs. ss–ij; olei eucalypti gtt. j–iij. M. Sig. ⅓–ʒj, in form of a spray.

Liquids applied to an acutely inflamed mucous membrane are absorbed and increase the tumefaction. Muriate of cocaine, 2½ per cent. to 4 per cent. solution, applied to the nose and throat one to three times a day, aborts or checks a cold in from one to three days, and relieves reflex irritability of these parts. Some authors describe naso-pharyngeal catarrh as two distinct diseases, viz.: nasal and pharyngeal catarrh, and devote separate chapters to each; though if a nasal catarrh exists there is also a pharyngeal catarrh, and *vice versâ.* The writer agrees with Rumbold, and prefers to call inflammation of the mucous lining of the nose and throat naso-pharyngeal catarrh, and describes it as one and the same disease.

Chronic catarrh may be divided into simple or mild catarrh, hypertrophic, atrophic, and fœtid catarrh. The first variety is a mild inflammation of several weeks,' months,' or one or two years' duration, and is generally the result of the acute, though it may occur insidiously, and, if properly treated, will soon end in resolution—that is, in three, six, or twelve months.

On rhinoscopic examination, the mucous lining presents a red or dark appearance, and there may be a few fine blood-vessels running over its surface. It is slightly œdematous, and has papular elevations corresponding to the mucous follicles, which are distended.

The pharyngeal walls, the vault, and the posterior nares have a watery, glairy mucus coating their surface. The mucus is secreted in great abundance, producing almost constant tickling in the throat and an inclination to swallow, and is discharged freely from the anterior and posterior nares. The turbinated bones and septum are a little œdematous, but not hypertrophied.

Subjective symptoms are, tickling in the throat, inclination to swallow, hawking, reflex cough, especially at night, when the recumbent posture is resumed, soreness of throat and paroxysms of sneezing, almost constant wiping of the nose, and the expectoration of a watery, frothy mucus. In children the palatine tonsils and cervical glands are very often enlarged, but they subside as if by magic when local treatment is directed to the catarrh of the naso-pharynx, so that the performance of tonsillotomy is seldom needed when this is properly carried out. Injection of the hypertrophied tonsils by means of the hypodermic syringe with the following assists very materially in reducing them to their natural size: ℞ Potass. iodid. ℈j.; iodinii gr. j.–v.; glycerinæ f ℥ss.; aq. font. f ℥jss. M. Ft. sol. Sig. dose, gtt. x–xxx. Catarrh at this stage is easily cured.

TREATMENT OF CHRONIC CATARRH.

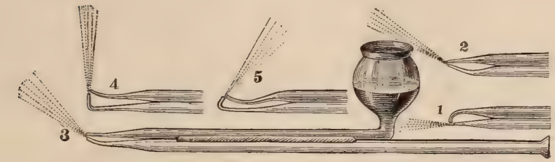
The local treatment given for acute catarrh, the inunction of vaseline and massage, is equally as essential in chronic catarrh.

The disease should be treated locally every day for from four to seven days; then every other day for two or three weeks; then twice a week for two to four weeks; then once a week for three to five weeks. At the expiration of treatment the patient will feel that a cure has been made, though it will take several weeks or months for the mucous lining to return or grow to its normal state. In many cases tonics and restoratives are indicated, or some functional derangement will have to be corrected. Very often a naso-pharyngeal catarrh is attended with a catarrhal laryngitis, tracheitis, or bronchitis, and of all means that have been invented for making local applications to the air passages, Rumbold's spray-producers (numbers 1–5, inclusive, for the naso-pharynx, and numbers 6–8 for the larynx) are the best; for with these instruments the medicine can be *applied directly* to the diseased surface, and medication of healthy tissue is avoided. These are the only instruments with which vaseline can be sprayed. The medicines are applied warm, at the temperature of the respired air. Cold applications cause irritation and aggravate the disease. Every part of the mucous surface, its fissures, fossæ, and elevations, from the anterior nares to the bifurcation of the trachea, can be treated. Local treatment consists in thoroughly cleansing the affected parts, using sufficient force to remove the morbid secretions, and in applying medicines directly to the diseased surface; avoiding sound tissue and using medicines which are non-irritants.

Spray Producer No. 1 throws the spray horizontally, spraying the fauces, tonsils, and posterior wall of lower third of pharynx.

No. 2 treats the anterior nares. No. 3 the posterior wall of pharyngo-nasal cavity. No. 4 the vault and, by rotation of instrument, the lateral walls.

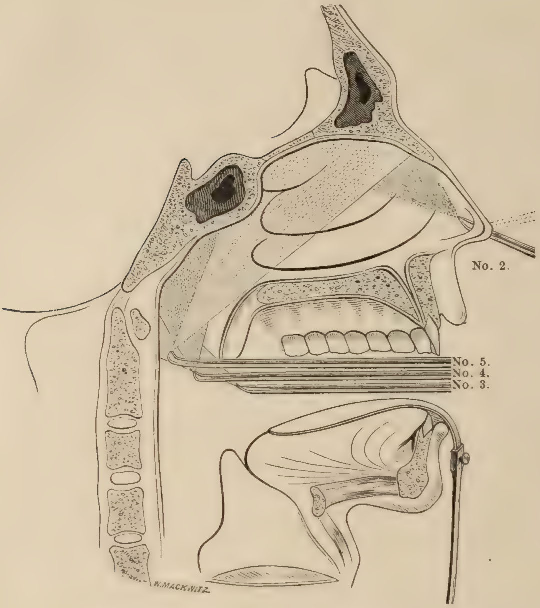
No. 5 directs the spray into the posterior nares, and treats the posterior third of the nasal cavities.



Spray Producers for making Local Applications to the Nasal and Pharyngo-Nasal Cavities, the Fauces and the Tonsils.

No. 1 treats the tonsils and the fauces; No. 2 the anterior nares; No. 3 the posterior wall of the pharyngo-nasal cavity; No. 4 its superior surface, and by slight rotation its lateral walls, and No. 5 throws the spray into the posterior nasal openings (RUMBOLD).

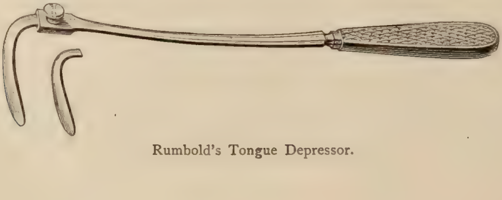
(RUMBOLD'S SPRAY PRODUCERS.)



Antero-Posterior Section of the Head, showing the combined direction of Spray Producers Nos. 2, 3, 4 and 5 in the local treatment of the pharyngo-nasal and nasal cavities. No. 2 is introduced into the anterior nares (RUMBOLD).

A rhinoscopic examination both anterior and posterior should be made, so as to ascertain before each treatment what part of the naso-pharyngeal cavities requires the most treatment, so that the surface least affected will receive the least treatment, and *vice versâ.*

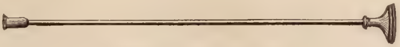
Rumbold's tongue depressor is the best, as it enables the patient to hold down his tongue easily, and gives the operator the use of both hands. The depressor is composed of a handle and three mouth-pieces of different sizes, any of which are removable by loosening a little thumb-screw at back of handle. See figure.



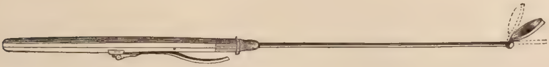
Rumbold's Tongue Depressor.

Should the palate retract in making a posterior rhinoscopic examination, Rumbold's uvula retractor renders valuable assistance in drawing the uvula and soft palate forward, and gives ample room for the mirror.

The retractor consists of a hollow tube, with a cup on each end; one end is covered with rubber so as to exhaust the air in the tube; when the rubber is depressed, the other end seizes the uvula and retains it by suction.



Rumbold's Uvula Retractor.



Rumbold's Pharyngeal Mirror.—By pressure on the lever on the handle, the mirror may be made to take any desired angle, thus reflecting the posterior, superior, and anterior surfaces of the pharyngonasal cavity, while rotation on its axis reflects the lateral surfaces.

Rumbold's pharyngeal mirror is the best in use for the above reasons.

Rumbold's spray-producers were formerly made of glass, and straight; but metallic instruments have been substituted, which are curved on one side. In most cases it is very easy to make a thorough laryngoscopic or rhinoscopic examination on first trial, especially if Rumbold's tongue depressor is used.

The patient is directed before the examination is begun to open the mouth wide and breathe freely and regularly through the nostrils, and if an inclination to gag is produced, the instrument should be at once removed. With a little education of the throat, complete control of the tongue and palate is accomplished. Should it be difficult to make a laryngeal or posterior rhinoscopic examination, or to make applications to the vault and posterior nares, a four per cent. solution of muriate of cocaine, applied to the fauces, palate, and pharynx will allay reflex irritability, and in ten or fifteen minutes the manipulation can be performed without the least inconvenience. Spray producers are used with compressed air, 7-10 pounds to the square inch, either the rubber tube and bulb or compressed air apparatus being employed. Greater pressure than ten pounds causes a painful and irritating sensation to the patient. Sass's compressed air apparatus is quite popular with physicians, but it is an instrument capable of doing great harm; forty or fifty pounds pressure to the square inch is too great.

Hypertrophic catarrh is a variety of chronic catarrh, and is characterized by the following pathological conditions: In mild cases the mucous lining is a deep red color, and has traversing its surface from two to four blood-vessels, to a circle of half a square inch, which are enlarged. It is infiltrated, and has irregular elevations rising from its surface, corresponding to the glands and follicles which are enlarged and distended, and secrete an abundant ropy, tenacious, thick yellow mucus. Hypertrophic catarrh, in its worst stage, has four to eight blood-vessels ramifying over its surface to a circle of half a square inch. The mucous membrane is of a dark-red color, and in persons addicted to the use of tobacco and alcoholic beverages, is of a dark, livid red color. It is coated with a tough, ropy, yellowish-brown secretion of muco-pus, which is removed with great difficulty. In this variety the secretion is secreted in great abundance, and produces almost continuous hawking and effort to dislodge the muco-pus from the posterior nares. Little secretion is discharged at the anterior nares, on account of the nasal stenosis caused by the thickened septum and turbinated bones. As the catarrh becomes more aggravated, the blood-vessels increase in size, number, and tortuosity, the mucous and submucous tissues get more thickened, infiltrated, and hypertrophied; the glands and follicles become distended and enlarged. From the evaporation of the water in the secretion, inspissations form in the naso-pharyngeal cavities, and are removed with great difficulty, and the irritation is so great at times as to cause nausea and vomiting. From the outward pressure of the distended follicles, the mucous surface presents an irregular papillated appearance, and if the disease is of long duration the muscles beneath the mucous membrane become involved, get infiltrated and thickened, and their function is much impaired. Deglutition is often performed with difficulty, the secretion from the naso-pharynx being so great, especially if attended with nasal stenosis, that patients will desist from eating through fear of suffocation.

Catarrh will extend by continuity of tissue to the Eustachian tubes and middle ears, and cause deafness; to the frontal, ethmoidal, and sphenoidal sinuses, and produce frontal, vertical, or occipital headache; also to the larynx, trachea, bronchi, and lungs, and it is a predisposing cause of acute laryngitis, trachitis, bronchitis, catarrhal pneumonitis, or catarrhal phthisis. From the nose catarrh will extend through the nasal duct to the lachrymal sac and conjunctiva, and impair the sight, and to the antrum of Highmore, ending in abscess and causing severe neuralgia. There are developed in the mucous and sub-mucous tissue new layers of connective tissue elements; in the epithelial there is an increased activity of cell-growth by which it becomes abnormally thickened and hypertrophied; the glandular tissue is also involved, but to a limited extent in the nasal cavities; the thickening is a regular and uniform hypertrophy, but appears irregular and nodular on the mucous surface. The hypertrophy is developed to its greatest extent in the turbinated bones; the inferior are more involved than the middle, the latter more than the superior turbinated bones. The meatuses and septum are also affected by the infiltration. There is narrowing of the nasal cavities, with impaired nasal respiration; in damp weather, the membrane absorbs moisture, thickens, intensifies the nasal stenosis, and makes respiration more difficult. Most of the secretion gravitates or is hawked from the posterior nares into the lower pharynx and is discharged through the mouth, owing to the nasal obstruction preventing a free egress anteriorly. When the recumbent posture is resumed, great annoyance is produced by the abundant secretion gravitating on to the posterior wall of the pharynx. Obstruction of one nasal cavity, by an enlarged turbinated bone, may be so great as to deflect the septum to the other side; the Eustachian orifices are infiltrated and narrowed. The mucous membrane of the vault and over the pharyngeal tonsils has a dark red appearance, and the glandular tissue called the pharyngeal tonsils is enlarged. The walls are thickened and the cavities extended; deposits of connective tissue are formed in the deep layers of the membrane, and in the walls of the glands; and there is an increase in the epithelial cells and blood-vessels. The mucous lining has many fissures and ridges; the latter are elevated above the surface, are round, nodular, and in clusters. At other points the elevations appear as long ridges from above downward.

In the upper part of the pharynx there is a transverse groove, which lies between the termination of the nasal roof above and the pharyngeal tonsils below; the latter end in the mesian line, in the pharyngeal bursa. Accumulations of thick, yellow, tenacious muco-pus adhere to the posterior pharyngeal wall and posterior nares.

The color of the lower pharynx varies from a light red to a dark red. The lining is thickened and coated with the characteristic muco-pus, and studded with oval or round elevations. These elevations are often in clusters, and they are frequently seen on the soft palate, while the latter takes on the catarrhal process, is very red, and has fine blood-vessels running over its surface. It becomes infiltrated and thickened, and the infiltration extends to the uvula and produces enlargement and elongation.

Atrophic catarrh is generally a sequel of hypertrophic catarrh, and may be late in manifesting itself, though it may occur early and assume the dry form at first. It is due to a deposition of lymph in the connective tissue around the glands and follicles, causing pressure on their orifices and preventing the escape of mucus. After this pressure has existed for some time, atrophy of the glandular and follicular tissue occurs. The mucous membrane has a dark-red, dry appearance, looking like parchment, and the secretion is so scanty as to be quite insufficient to moisten the membrane.

What little secretion is poured out soon dries and forms films or incrustations, and the sensation of a foreign body is produced in the throat and nasal cavities. The glands, follicles, and turbinated bones atrophy, and the inferior turbinated bones may be completely absorbed. The cavity is large and patulous, and the mucous membrane is rigid while even the muscles beneath get stiff, and form insufficient secretion of mucus to lubricate the parts; the throat is irritated and deglutition is performed with difficulty. The pain or spasm is often so great during deglutition as to cause the sufferer to eat reluctantly. There is continual thirst, which, when relieved by a sip of water, returns again in a few minutes. In this form of chronic catarrh, the sense and taste may be partially or completely destroyed.

Fœtid catarrh, or ozæna, is the worst form of chronic catarrh, and results from the atrophic. In addition to the morbid conditions enumerated in atrophic catarrh, there is produced a very unpleasant and offensive odor from the decomposition of the scanty secretion. This secretion is poured out, at first, so as to form a film or thin coating, which adheres closely to the mucous membrane; from day to day the secretion is formed and retained under this film. The latter gets coated with the dust of the respired air, and large greenish-yellow, or brown dirty incrustations form from rapid evaporation of the watery element in the mucus; decomposition of the morbid secretion takes place and produces a very offensive odor. From pressure of the scabs ulceration of the mucous membrane occurs; catarrh of the accessory sinuses, the maxillary, frontal, ethmoidal, and sphenoidal, is generally present in fœtid catarrh, and assists in producing the foul odor. Should any of the orifices of the accessory sinuses get obstructed by the large incrustations in the naso-pharyngeal cavities, an abscess would form and greatly aggravate the disease, and might jeopardize the life of the patient.

Sub-acute catarrh is an acute inflammation developed upon a chronic one. It has the same symptoms and causation, and requires the same treatment as the acute. It generally ends in chronic catarrh, though with proper treatment it will often terminate in resolution.

ETIOLOGY OF NASO-PHARYNGEAL CATARRH.

The causes are both local or exciting, and constitutional or predisposing. Local causes are, use of tobacco, alcoholic beverages, occupations attended with much dust, smoke, irritating gases, excessive dryness or moisture of the atmosphere, change of atmospheric temperature, as from a warm room into the cold air without being sufficiently protected with wraps; getting the feet damp, or standing or sitting for some time on a cold surface; wetting the head, exposure to night air, wearing damp clothes, changing beds, and sleeping in rooms without fire; draughts, insufficient clothing and food; changing clothes, substituting light and thin goods for heavy and warm ones, even changing boots for shoes, or the latter for slippers, or removing either of the former at night and using slippers; going without cuffs, collars, and cravat; sitting up late at night, and allowing the atmosphere of the room to cool before retiring; facing the wind in traveling, and not having the nose, mouth, throat, and chest protected; removing the clothes, and exposing the body in an almost nude state for an hour or more, as many ladies do before retiring.*

Constitutional causes are, any blood or nerve diathesis, phthisis, scrofula, cancer, syphilis, rheumatism, malaria, measles, scarlatina, smallpox, diphtheria, and mumps. Uterine affections, by impairing the general health, place the system in a condition favorable to acquiring catarrh; and if a female has uterine catarrh, catarrhal inflammation of the naso-pharynx is almost certain to exist or supervene. Any nerve diathesis, by enervating the system, predisposes to catarrh; excessive fatigue, either mental or physical, by exhausting the vital forces, predisposes to catarrh. Tonsillitis and tonsillar hypertrophy are considered by many writers to be a cause of catarrh; but Dr. Rumbold's as well as the author's observation and experience are to the contrary; for treating the former will not cure the catarrh, but treating the latter will often cure the former.

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* From 1–10 years the sexes are equally affected with catarrh; from 10–30 years females are in the majority, doubtless from the fact that they yield to the folly of fashion, wear an unequal amount of clothing, and are subject to the physiological functions of menstruation: 425 males, 726 females. From 30–45 years, 500 males, 237 females; the latter, it seems, have changed their condition and mode of living, are not exposed to great and sudden changes of temperature, and from past experience have learned to take care of themselves, while the males have been better protected with clothing, but have engaged in occupations injurious to health, and indulged in the use of tobacco.—RUMBOLD.

The diagnosis of the different stages of chronic naso-pharyngeal catarrh is easily accomplished by making an anterior and posterior rheinoscopic examination, and analyzing the subjective symptoms.

On anterior rhinoscopic examination in hypertrophic catarrh the mucous lining of the nasal cavaties will present a red or a dark red appearance and will be swollen, slightly œdematous, especially over the turbinated bones, and greatly hypertrophied. The inferior and middle turbinated bones will be more involved than the superior, and the meatuses will be narrowed, while the latter and the turbinated processes may have adhering to their surface the characteristic muco-pus.

Posterior rheinoscopic examination in chronic hypertrophic catarrh presents to view a tenacious, yellow, ropy muco-pus adhering to the mucous lining which is removed with great difficulty. From evaporation of the watery element in the mucus, the latter gets inspissated and is discharged from the naso-pharyngeal cavities in whitish yellow lumps. The mucus is a dark red color, and has three to eight blood-vessels over its surface to a circle of half a square inch (Rumbold), and irregular nodular elevations projecting above its surface. These also appear on the surface of the palate; the turbinated bones and septum are thickened and hypertrophied.

The pharyngeal tonsils present their characteristic appearance, the vault and posterior nares have a dark red appearance, and in persons addicted to tobacco and alcohol it is a livid red. The Eustachian orifices are tumefied.

The symptoms characteristic of hypertrophic catarrh are, more or less impairment of the faculties of the will, intellect, emotion, and memory, irritability, anger, nasal obstruction, impaired nasal respiration, oral respiration, and hawking from the posterior nares of the characteristic yellow, ropy muco-pus. When the recumbent posture is resumed, there is a dropping or gravitation of the secretion to the posterior pharyngeal wall, which often causes irritative cough; at morning, when the patient arises, there is a great commotion of the respiratory muscles, produced in trying to rid the naso-pharynx of the abundant tenacious secretion, and nausea and vomiting are often the results. Other results are headache, either frontal, vertical, or occipital, impairment of one or more of the senses of smell, sight, taste, or hearing, hæmoptysis, and epistaxis, impaired articulation, tickling in the throat, constant inclination to swallow, paroxysms of sneezing, insomnia, frightful dreams, suicidal tendency, and inclination to suspect and doubt the sincerity of the truest friendship. The catarrhal inflammation may extend to the larynx and trachea, and give rise to the symptoms of laryngitis and tracheitis. Many catarrhal patients regard the thick, white, yellowish inspissations of muco-pus which are hawked from the naso-pharynx as tubercles expectorated from the lungs, and if a slight hemorrhage of the throat occurs from the irritative cough and violent rasping of the throat, they think they are the subjects of prodromal phthisis. Even in epistaxis, if the blood gravitates and trickles from the vault and posterior nares into the pharynx, producing cough and irritation of the throat, and is ejected by the mouth, it is supposed to have come from below the glottis, when, if a minute physical examination of the chest, and a rhinoscopic and laryngoscopic examination were made, the site of the hemorrhage would be located in the vault, or posterior nares, and all mental and nervous shock, which are often more prejudicial and enervating than the occurrence of a true pulmonary hemorrhage, would be avoided. Many victims of catarrh have a vacuous and depressed expression, and are gloomy, absent-minded, easily harrassed, so that life seems a burden to them. Cold hands and feet, impaired circulation, numbness, anæsthesia, or hyperæsthesia of one or more parts of the body, peripheral neuralgia, palpitation of the heart, and anorexia, are frequently present in catarrh of the upper air passages.

On anterior and posterior rhinoscopic examination in atrophic catarrh, the mucous lining is a dark red color, and has a glazed appearance, with many blood-vessels visible on its surface and on the soft palate. The follicles and glandular tissue, and the turbinated bones, are very much atrophied, the inferior more than the middle, and the latter more than the superior turbinated bones. The nasal cavities are large and capacious, and the characteristic dried films of mucus are visible. Subjective symptoms are, sensation of a foreign body in the throat or naso-pharynx, difficulty and pain in swallowing, dryness of mouth, tongue, and naso-pharyngeal cavities, impairment of senses of smell and taste, frequent epistaxis and impairment of the faculties of the mind, as in hypertrophic catarrh.

The diagnosis of the fœtid catarrh, or ozæna, is easy. It is an exaggeration of the atrophic, of which it has the same pathological conditions. The pharyngo-nasal cavities are large, and partially or completely filled with greenish yellow incrustations or dark brown scabs. After thorough cleansing is accomplished, the mucous lining presents the appearance of a mild chronic or hypertrophic catarrh, except that atrophy of the turbinated bones and erosions on the septum or near the anterior nares may exist.

PROGNOSIS OF CATARRH.

This is generally good. Most cases, if taken before 45 years of age, and if the catarrh is not of several years duration, can be cured.

Acute catarrh of the naso-pharynx is curable, and constitutes what is termed a cold. If properly treated it ends in resolution in a few days, and it should never be allowed to pass into the chronic form. Subacute catarrh will often end in resolution, if treated properly during its acute stage, and followed up by local treatment. Chronic naso-pharyngeal catarrh is the result of the acute, though it may occur insidiously, and is made worse by a separate attack.

Children 10 years of age and under are more easily cured than any other class of patients, because they are more confined to the house and not exposed to inclement weather, do not indulge in fashions, tobacco, or alcoholic beverages, nor pursue occupations that are productive of catarrh; and should not recovery occur, the mucous lining can be placed in such a comfortable condition by treatment as to give comparatively little inconvenience in after-life. They seldom need more than one course of treatment, but this should embrace several weeks. This will not, as a rule, cure the patient, but it enables the mucous lining to attain a healthy state. Many catarrhal patients get well with local treatment alone, while others require both constitutional and local. Chronic catarrh, while it is curable, may return at some subsequent fall or spring, if the subject is not prudent and exposes himself to one or more of its causes. Some cases are worse in damp weather, while atrophic catarrh is worse in dry and better in damp weather. Hypertrophic nasal catarrh will end in resolution if the disease is of short duration (so that the adventitious deposits are of recent origin and not organized), and if the treatment is continued long enough. While some parts of the membrane have taken on the hypertrophic form, others are in a condition of mild catarrhal inflammation.

Atrophic catarrh is very obstinate, but if treated properly for a sufficient length of time, many cases recover. The fœtid catarrh, if treated thoroughly and persistently, can be relieved, and in many cases cured.

PROPHYLAXIS.

The truism of "an ounce of prevention is worth a pound of cure," applies with special force to naso-pharyngeal catarrh.

Two questions may be asked, viz.: first, what should be done to prevent catarrh; second, what should be done to restore the catarrhal mucous membrane to health?

Good, nutritious food, an equal amount of clothing applied to the body, extremities, and head, exercise in the open air, a well-ventilated room, with good sunlight, are of first importance. Vest, drawers, and hose, composed of two-thirds cotton and one-third wool, for the latter part of spring and during the summer and in the fall and winter, two-thirds wool and one-third cotton. The latter absorbs any excess of perspiration, and the wool keeps the temperature of the surface of the body uniform.

In the winter, if the weather is very cold, a second or third suit of underclothing should be worn over the first, especially if the patient is very delicate. Wristlets should be worn when exposed to the cold air, in addition to gloves; thick-soled shoes or boots should be worn during the entire year, and gum rubbers in wet weather, with arctics in cold weather. A scarf or handkerchief should be worn around the neck in damp or cold weather or when exposed to night air, and on leaving a warm room and going into the cold air. These remarks also apply to wearing overcoats, shawls, or cloaks.

Neither the old-time "comfort," composed of wool, nor the fur collar, should be worn around the neck. They are too heating, producing perspiration even in very cold weather, enervate the system, and predispose to taking cold.

The head should be well protected; the male is much better protected with hats and caps than the opposite sex. The ordinary fashion of ladies' head dress is very injurious to health, as it affords no protection to the head in sudden atmospheric changes. It is equally as important to protect the head during the warm months of the year as the cold ones. Walking at night with the head uncovered, undressing and sitting for some time in the night clothes, and getting up at night with no extra wraps on, are very pernicious to health. A person should never lie uncovered even during the warm summer nights, but should be covered with sheet and blanket, since, otherwise, the part of the body in contact with the bed gets warm and that which is exposed is chilled; so that a congestion or inflammation of the mucous membrane is apt to be produced. The sleeping apartment should be warm and well ventilated, and have plenty of sunlight. Open fireplaces are preferable to stoves or furnaces. Fireplaces and grates ventilate much better than stoves, as the latter cause little ventilation and dry the atmosphere. Wood fires are preferable to coal, the gas and smoke from the latter being quite irritating to the upper air passages. In summer a light overcoat, scarf, and warm hat are indispensable to prevent taking cold when exposed to night air or damp weather. In winter thick-soled boots and shoes are quite essential, and low-cut shoes and slippers must be avoided. For winter, a good supply of wraps and cloaks must also be worn. It is highly important not to change the sleeping apartment during the latter part of fall, the winter, and the first half of spring.

Any occupation that is attended with irritating gases, smoke, dust, exposure to draughts, insufficiency in amount of fresh air, or to bad weather, must be given up. The use of tobacco in any form, and alcoholism, must be avoided.

It is very injurious for catarrhal patients to bathe or change their underwear more than twice a month during winter. The anointing with vaseline, followed by massage, cleanses the skin, takes the place of the water-bath, and invigorates and fortifies the system against taking cold.

The head should never be wet, nor the hair trimmed in cold weather. The beard should be worn, especially during the fall, winter, and spring. Shaving is very injurious to catarrhal patients during these months, as the hair and beard are a great protection to the head, face, and throat, and supply the place of extra wraps. The teeth must receive necessary attention from the dentist. Decayed teeth interfere very materially with the improvement of catarrh of the upper air passages.

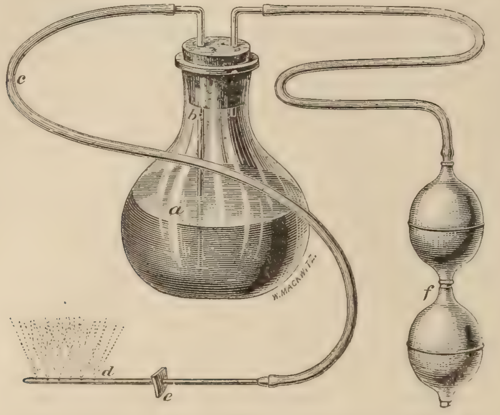
TREATMENT OF HYPERTROPHIC, ATROPHIC, AND FŒTID CATARRH.

This is both constitutional and local, and both, as a rule, go together. All catarrhal patients need local treatment to the upper air passages, and yet in few cases can it be depended upon alone.

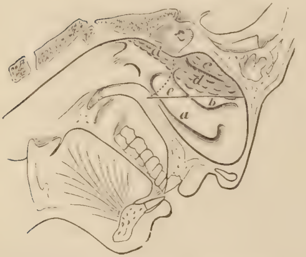
Constitutional treatment consists in correcting any functional derangement, and in the administration of restoratives, tonics, and alteratives. If one or more varieties of dyspepsia, attended with torpid liver or constipation, exist, bismuth, soda, pepsin, lactopeptine, and pancreatine, a tonic laxative and cholagogue are indicated. If anæmia or malarial poison is present, iron, quinine, and arsenic should be prescribed. The rheumatic diathesis must be eliminated with alkalies, acids, or tongaline, and, if complicated with malaria, with the aid of quinine and arsenic. For the scrofulous, diathesis, iodine in some form, such as the elixir of iodo-bromide of calcium with cod-liver oil, the syrup of the iodide of iron or the iodide of potassium ; for the syphilitic, mercury, or mercury and iodide of potassium; for the phthisical and cancerous, chemical food, Fellow's hypophosphites, cod-liver oil, or hydroleine and arsenic ; for the nervous, phosphorus, the hypophosphites, strychnia and electricity.

Local treatment " has three objects in view, viz.: 1st, non-irritation ; 2d, thorough cleansing of the diseased surface, with the use of sufficient force to remove the morbid secretion ; 3d, medication of diseased tissue without irritating or medicating healthy tissue." It has been the prevailing custom from time immemorial to use strong solutions to the throat. Even saturated solutions of nitrate of silver have been applied, and whatever good (?) they may possibly have done has been followed or accompanied by greater irritation, healthy tissue having been destroyed and diseased action aggravated. In treating naso-pharyngeal catarrh, the old adage, *ubi irritatio ibi fluxus*, must be kept in mind by both patient and physician. The treatment of hypertrophic catarrh is both medical and surgical.

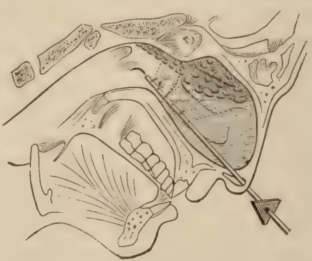
If it is a mild case of short duration and the secretion is not very tenacious, the spray-producers, with compressed air 7-10 lbs. to the square inch, will be sufficient to cleanse and remove the unnatural secretion ; but in cases of long standing and great severity, and in which the muco-purulent secretion is very ropy, tenacious and difficult to remove, the following means must be resorted to for cleansing and displacing the muco-purulent accumulation, and are equally efficacious in atrophic and fœtid catarrh : Rumbold's catheter nasal douche is a most excellent instrument, and surpasses all other kinds of douches, as it is a spray-producer of great size, and subdivides the solution so as to form a coarse spray. The catheter is composed of soft rubber, and is imperforate at the nasal end, but has several small foramina on its superior surface, through which the spray forms and is conveyed directly to the roof and lateral walls of the nasal cavities, washing the diseased surface, and removing the morbid secretion. The catheter can be passed back so as to cleanse a part or all of the pharyngo-nasal cavities, and there is no danger attending the use of this instrument, such as acute otitis media and inflammation of the brain, because the solution is applied first to the roof and lateral wall of the naso-pharynx, where the disease is located, while with other douches the solution flows along the floor of the nasal cavities, rising high enough to reach and flow into the Eustachian orifices and tubes, and producing acute otitis media, while it never reaches the diseased tissue in the roof and labial walls. It thus medicates healthy tissue, which is injurious.



Catheter Nasal Douche: *a*, container; *b*, metal tubes for passage of the liquid, the *letter* is placed beside a small aperture in the side of this tube which is to allow the entrance of air; *c*, supply tube, which is made of soft rubber and glass tubing; *d*, catheter with foramina for the escape of the air and liquid; *e*, triangular piece of soft rubber, perforated and slipped on the catheter; *f*, india rubber air bulbs used to force the air into the container *a*. (RUMBOLD).

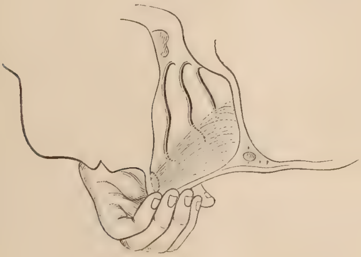


Anterior-posterior section of the head and face, showing the turbinated processes *a*, *b*, *c*; *d*, *d*, the location of the encrusted secretions in the highest portion of the nasal cavity; *e*, the height that the water attains in the nasal cavity, while using the Weber douche, while the head is inclined forward. The dotted lines indicate the position of the posterior border of the septum nasi. (RUMBOLD.)

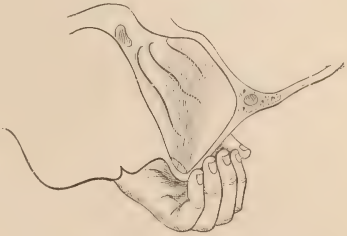


Antero-posterior section of the head, showing the catheter introduced into the nasal cavity, and the direction of the coarse spray. The triangular piece of rubber *e*, on the catheter, will indicate the distance the catheter is introduced and the direction that the stream is taking. (RUMBOLD).

If the catheter nasal douche is not at command, the insufflation of a medicated solution can be used with the head in the three following positions. In the first position the chin is placed against the sternum, and the medicated solution is drawn into the nasal cavities by suction from the palm of the hand, or from a sponge wet and held to the nostrils. When the suction is made, the sponge is compressed, and the middle third of the nasal passages is thus washed and cleansed.



First position of the head, in which the anterior third of the nasal passages is washed by the suction of water and air from the palm of the hand, or from the sponge held in the hand. (RUMBOLD.)



Second position of the head, in which the middle third of the nasal passages is washed by the suction of water and air from the palm of the hand or the sponge held in the hand. (RUMBOLD.)

In the second position the head is held erect, and the anterior third of the nasal cavity is washed and cleansed by suction as above.

In the third position the head is extended so as to approximate the posterior surface of the neck; the posterior third of the nasal cavities, the vault, the upper surface of the soft palate, and the posterior wall of the naso-pharyngeal cavity is washed and cleansed.*

The medicines used to cleanse the diseased surface are chloride of sodium ʒj, warm water oj. To this solution may be added, as is necessary, one or more of the following medicines: Listerine ʒj–ʒij; glycerine ℥ss–℥j; carbolic acid gr. iij–gr. x; biborate of sodium gr. xv–ʒj; salicylic acid gr. v–x; permanganate of potassium gr. v–xv; liquor sodii chloridi ʒss–℥ij. Dobell's solution is a favorite with many physicians in cleansing the naso-pharyngeal cavities. These solutions can be applied with the catheter nasal douche, by suction, by Sass's spray tubes, or by Richardson's atomizer. The following is the formula of Dobell's solution: ℞ acidi carbol. gr. j; sodii biborat. gr. ij; sodii bicarb. gr. ij; glycerinæ ʒj; aquæ ℥j. M. In dry or atrophic and fœtid catarrh carbolic acid should be avoided, as it hardens and dries the mucous membrane too much. Listerine, carbolic acid, or oil of eucalyptus (gtt. xx–ʒj. to the pint of warm water) have proven to be the most pleasant and acceptable detergents, as a rule. After the parts have been thoroughly cleansed in hypertrophic, atrophic, and fœtid catarrh by the above means by the patient, the pharyngo-nasal cavities should be sprayed with some one of the solutions mentioned. Vaseline should, however, be the base of all medicines that are applied in the form of spray to nose and throat, larynx and trachea. Richardson's atomizer does very well to cleanse with.

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*It is best to use the catheter nasal douche or suction by means of the sponge, preparatory to making application with the spray in all forms of catarrh of the upper air passages, as the diseased surface is thereby cleansed, and the spray is more effectual.

Third position of the head, in which the posterior third of the nasal passages is washed; and also the upper surface of the soft palate, and the posterior wall of the pharyngo-nasal cavity. (RUMBOLD.)

In catarrh the secretion is either excessive or diminished, and vaseline takes the place of the natural mucus, moistens, soothes, and lubricates the diseased tissues, forms an artificial coating, protects the mucous membrane from irritation, and prevents inspissation of the mucus or muco-purulent secretion by arresting evaporation of the watery element.

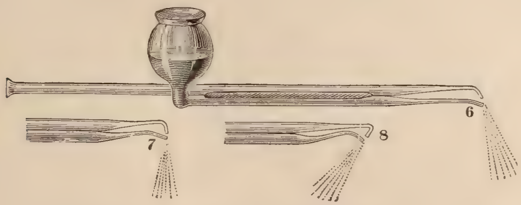
In addition to the prescriptions mentioned in the treatment of acute and mild chronic catarrh, the following give excellent results, used at the temperature of the respired air, in the form of spray:

℞. Listerine, ʒj–ij; glycerinæ, ʒij; aquæ, ʒvj. M. ℞. Potass. iodidi, grs. iij–x; glycerinæ ʒiv; aquæ ʒiv. M. ℞. Potass. bromid. gr. iij–x; aquæ ʒvi; glycerinæ ʒij. ℞. Ammoniæ muriat. gr. iij–xv; aquæ ʒvi; glycerinæ ʒij. M. ℞. Glycerite of tannin, ʒij, glycerine ʒvi. M. ℞. Argenti nit. gr. iij–x; aquæ ʒij; glycerinæ ʒvi. M. ℞. Tr. iodinii gtt. xv–ʒss; glycerinæ ℥jss–ij.

Prescriptions containing Kennedy's pinus canadensis, carbolic acid, muriate of ammonia, or iodine have proven to be the best remedies in hypertrophic catarrh; and in atrophic and fœtid catarrh, listerine, bromide of potassium, nitrate of silver, and the pinus canadensis and glycerine, with oil of eucalyptus.

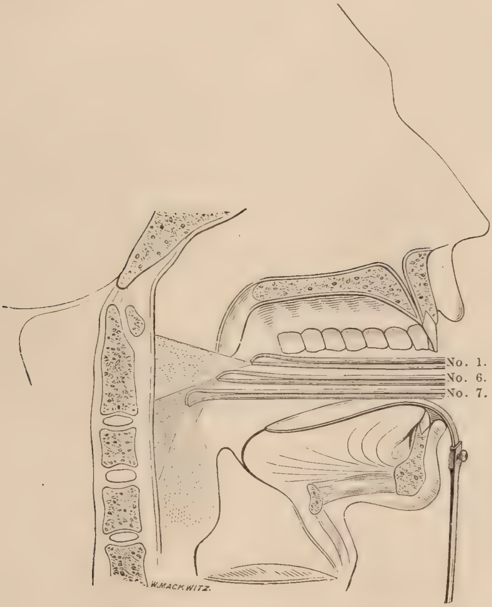
The dose of any of these prescriptions is gtt. iij–x–xv, with ⅓ to ʒj of vaseline, and as the medicines approach the end of the spray-producer the finger should be placed over the point in order to make the contents regurgitate, thus mixing them thoroughly and subdividing them into a molecular state.

If the catarrhal inflammation has extended to the larynx or bronchial tubes, or if laryngeal ulcer exists, laryngeal spray producers, Nos. 6 to 8 inclusive, should be used, in addition to Nos. 1 to 5, with some of the prescriptions and vaseline previously enumerated. No. 8 sprays the posterior surface of the epiglottis, base of tongue and anterior wall of larnyx and trachea. No. 7 sprays the vocal cords and external walls of the larynx, and No. 6 sprays the posterior wall of the larynx if the patient makes a full, deep inspiration, while if he tries to say "aye" the spray can be inhaled into the lungs.



Spray Producers for Making Local Applications to the Posterior Wall of the Pharynx, the Arythenoid Cartilages, the Larynx, the Base of the Tongue and the Epiglottis.

No. 6 treats the posterior wall of the pharynx; No. 7 the larynx, vocal cords and trachea; No. 8 the base of the tongue and epiglottis (RUMBOLD).



Antero-Posterior Section of the Head.—Showing the combined direction of Spray Producers 1, 6 and 7. No. 8 throws the stream on the base of the tongue. These instruments treat the pharynx, larynx and base of the tongue (RUMBOLD).

The local treatment should be taken every day until the muco-purulent secretion is arrested, generally from seven to fifteen days, then every other day for two to four weeks, then twice a week for two to four weeks, then once a week for three to six weeks. The irritation, congestion, infiltration, and tumefaction readily yield to treatment and diminish each week; the blood vessels contract and lessen in calibre. The mucous membrane assumes a healthier appearance, the yellow, tenacious, muco-purulent secretions and inspissations get less and less, and by the tenth or fifteenth day the secretion will have lost its tenaciousness and purulency, by the twentieth or twenty-fifth treatment the secretion will have changed to a thin, watery consistency, and by the thirtieth or fortieth will have almost entirely subsided.

" It will take from one to three, five or ten years' local treatment, fall and spring, to enable the mucous membrane to grow to a healthy condition, so that the patient will not be conscious of having a naso-pharynx."—Rumbold.

All cases do not require long treatment, but bad and obstinate ones do. The most, if taken in time, before the inflammatory product is organized, will get well in from one to three years, by receiving local treatment each fall and spring.

These seasons are the best time to begin treatment, and the latter is better than the former, on account of the warm weather, which enables the mucous lining to grow more rapidly to a healthier state.

Powders, swabs, gargles, and snuffs are feeble and insignificant agencies for treating the naso-pharyngeal cavities, because: 1st, they do not cleanse; 2d, they do not reach the diseased tissue which is in the roof and lateral walls; 3d, they produce irritation; 4th, healthy tissue in the floor is medicated by them, and 5th, by irritation of sound tissue caused by them, the diseased surface is enlarged, and the trouble thus aggravated.

Should local, constitutional and hygienic means fail to relieve the hypertrophy, surgical measures must be resorted to.

Reduction of hypertrophied turbinated processes can be accomplished by inserting hypodermically into the mucous membrane from five to fifteen drops of a solution of carbolic acid, grs. v—xv to ℥j distilled water; the tissue turns white, contracts and shrivels, and the hypertrophy is greatly reduced, though some pain is produced by the operation. The application should be made once or twice a week.

Carbolic acid employed in this way is also useful in destroying nasal polypi. Nitric, chromic, and acetic acid are quite beneficial in reducing hypertrophies of the nasal cavities—nitric acid, being a powerful caustic, is apt to spread to healthy tissue. Its action is therefore difficult to localize, and it is quite painful. Dr. A. H. Smith, of New York, has invented an instrument for making applications to the enlarged turbinated bones that protects healthy tissue, and prevents too much of the adventitious tissue being destroyed at one treatment. The tissue protrudes through the fenestra in a shield, and comes in contact with the acid on a probe within the instrument. Nitric acid should not be used to the vault, as there is danger of its passing into the larynx and causing great injury to it. Chromic acid is a powerful caustic, though it is painless in its action, and it can be applied in crystals or in solution to the turbinated processes and glandular tissue of the vault.

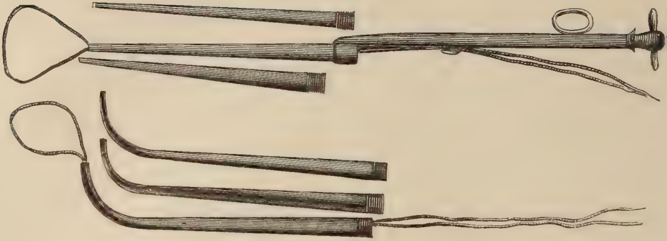
Acetic acid has proved to be a very beneficial remedy in destroying the hypertrophies of the nasal cavities, though there is some danger in applying it to the vault. It has a great affinity for epithelial cells. It may be applied on a flat probe, one side only being coated, as the right or left nasal cavity is to be medicated.

In making applications to the vault it is often necessary to tie the palate up, especially in very irritable throats. It will be the exception to tie the palate in making the application if muriate of cocaine, 4 per cent. solution, is used prior to application. The application is to be made with a curved probe for want of a better instrument. Nitrate of silver should be avoided. It has done more harm than good in catarrh of the naso-pharyngeal cavities, as a caustic or in strong solution, as it produces superficial inflammation and infiltration, and increases the hypertrophic process. Other surgical measures for reducing the hypertrophies of the naso-pharyngeal cavities are, the use of the forceps, the snare, and the galvano-cautery.

Forceps cause great pain and hemorrhage. The tissue is pinched or torn away, and often healthy mucous membrane is removed. The snare is an excellent instrument, and is to be preferred to the forceps, though it has disadvantages attending its use. It is often difficult to get the wire over the growth, and, when placed in position, it is apt to break. Blake's and Jarvis's snares are the best, and of the two the latter is preferable. It can be used with greater facility and is more powerful. It has a straight nasal and a curved post-nasal tube, and the latter is used in removing growths from the post-nasal cavities and vault. The writer has invented a snare which has many advantages over Blake's or Jarvis's.

Carpenter's Snare has three straight and three curved tubes, which screw on to the body of the snare. The former tubes are for removing neoplasms from the anterior nasal cavities, mouth, external auditory canal, vagina, uterus, rectum, or integument. The latter are for removing neoplasms from the naso-pharyngeal cavities. The object in having three straight and three curved tubes is that a very fine or coarse wire can be used, according to circumstances; and should the wire break in snaring a fibroid, a larger size can be used by employing a larger sized tube. The screw power and the fastening of the ends of the wire are different from those of Jarvis's or Blake's. The wire is less apt to break, and much less force is required to snare a growth. This is a universal snare, and it has sufficient power to remove any growth that is suited to this method of treatment.

The length of the instrument is ten inches. The wire should be annealed before snaring; and copper wire has proven to be the strongest obtainable. Messrs. John Reynder & Co., of New York City, make this instrument at a cost of about $12.



CARPENTER'S SNARE.

The galvano-cautery has been highly extolled for the successful removal or the absorption of the catarrhal hypertrophies, though the writer has had no experience with it.

Atrophic and fœtid catarrh demand the same constitutional treatment as any other variety. Catarrhal patients are generally very much impaired in health. To cleanse the diseased surface and remove the morbid secretion, any of the cleansing mixtures mentioned, with the exception or those containing carbolic acid, should be used prior to making applications with the spray-producers; medicines to be used in the form of a spray are, solutions of bromide of potassium, oil of eucalypius, pinus canadensis, glycerine, listerine, weak solutions of nitrate of silver, muriate of ammonia, iodine and vaseline. Carbolic acid has a tendency to dry and harden the mucous membrane and arrest natural secretion, which are the very things to be avoided in atrophic and fœtid catarrh.

℞. Potass. bromidi gr. iij–x; aq. destillat. ℥j. glycerinæ ʒiij. M. Ft. sol ℞. Potass. iodidi grs. iij–x, aq. destil. ʒvi. glycerinæ ʒij. M. Ft. sol. ℞. Ft. iodinii, gtt. v–xx. glycerinæ ℥j. M. ℞. Pini canadensis gtt. v–xx. aq. destil. vj, ol. eucalypti gtt. j–iij; glycerinæ ʒij. M. ℞. ammoniæ muriat gr. v–x, aq. destil. ʒij., glycerine ʒvi. M.; the dose of any of these prescriptions is 3 to 10 drops, with ⅓ to ʒj. of vaseline to be used in each spray-producer. Glycerine has the virtue of stimulating the mucous follicles and glands, causing an abundant secretion of mucus, which soothes and lubricates the dry mucous membrane. Any of the above medicines in combination with glycerine increase the action of the latter very materially and cause anæmia of the affected parts. Vaseline is very essential in this stage of the disease, as it soothes, moistens, and lubricates, and forms an artificial coating on the diseased surface, thus protecting it from irritation. Treatment must be continued a long time and energetically in order to secure marked relief or effect a cure.

The indications in the treatment of atrophic and fœtid catarrh are, to improve the general health, cleanse and remove the morbid secretion, relieve chronic congestion, open the mouths of the mucous follicles, stimulate the follicles and glands to increased activity, and to give tone to the mucous membrane, so that it will be less susceptible to future attacks of sub-acute catarrh or cold, and be enabled to grow into healthy tissue.

Local treatment for atrophic catarrh should be continued every day for five to ten days, then every other day for two or three weeks, then twice a week for two to four weeks, then once a week for three to ten weeks. Treatment of all stages of catarrh of the upper air passages should begin in the spring; and every fall and spring, for from one to several years, local treatment should be resorted too, to check colds, give tone to the mucous lining, and assist the latter in reaching a normal state. Any occupation attended with much dust or dryness of the atmosphere is very injurious and must be avoided.

Fœtid catarrh demands very much the same treatment as the atrophic, though the cleansing lotions employed with the catheter, nasal douche or by means of suction, as described in the treatment of hypertrophic catarrh, will have to be used for a few days, night and morning, until the incrustations or scabs cease to form. The best are listerine, liq. sodii chlorinat, each ʒss—ʒij to Oj of warm salt water; and salicylate of soda, or permanganate of potash, grs. v—x to warm salt water Oj. The same medicines used in the atrophic and hypertrophic catarrh, except carbolic acid, are indicated, though vaseline should be applied much more freely, especially with spray-producers Nos. 2, 4, and 5, as they direct the spray against the vault and lateral walls of the naso-pharyngeal cavities, apply medicines to the orifices of the sphenoidal, ethmoidal, frontal and maxillary sinuses, and remove incrustations or scabs which often obstruct them. Should any of these orifices get occluded, abscess would result and endanger the life of the patient. It is very difficult to thoroughly cleanse the diseased surface at first, and two or three local treatments with spray-producers, preceded by the use of cleansing and disinfectant lotions, will be necessary before removal of all offensive scabs is accomplished. Thorough cleansing should be done by the patient before local applications are made in the form of a spray.

Local treatment should be continued every day until the formation of the dark scabs ceases, then every other day until the greenish-yellow inspissations of muco-pus subside, then twice a week until the secretion of mucus has become natural, then once a week for ten or fifteen weeks. Each fall and spring the catarrh should be treated from ten to twenty times to assist the mucous membrane in regaining a healthy condition—to give it tone and fortify it against colds. Though it will often take several years of fall and spring treatment to accomplish a cure, it is better to be patient and persevering and finally relieve the patient than to abandon him to his fate, with the chance of losing one or more of the special senses, and the certain prospect of the functional derangement and impaired health that always follow neglected cases of chronic catarrh of the upper air passages. Many catarrhal patients have neurasthenia, and require the use of electricity to secure a return to good health; thorough local treatment is successful in removing or curing the local affection. It is the sequels of catarrh which are benefited so much by electricity, and the galvanic current is preferable to the Faradic in this class of cases.

COMPLICATIONS AND SEQUELS OF CHRONIC CATARRH.

It is very easy to account for the diverse affections following catarrhal inflammation of the upper air passages when the anatomical, pathological, and neurological relations of the parts are considered. The meninges and base of the brain are in close proximity to the catarrhal mucous membrane, and many blood-vessels that the latter supply also supply the former, either directly or indirectly. The same is true in regard to the distribution of the cranial nerves. They communicate with various ganglia and proximate and remote organs, and convey irritation directly or reflexly to different parts of the body. With what facility, then, when irritation or pain is produced in the terminal filaments of the nerves supplying the mucous membrane of the upper air-passages, can it be transmitted to distant organs or members! It is equally as easy to have congestion of the brain follow chronic catarrhal inflammation of the upper air passages. In the nasal cavities are the special nerves of smell, the olfactory nerves connecting the olfactory ganglia with the central parts of the brain, and communicating with the nasal branch of the ophthalmic, the anterior dental branch of the superior maxillary, the spheno-palatine, and naso-palatine ganglia.

The gustatory, one of the special nerves of taste, is distributed to the tongue, and communicates with the submaxillary ganglion and hypoglossal nerve. The chorda tympani is a nerve of taste, a branch of the facial, and supplies the mucous membrane of the drum, also communicating with the gustatory. The glosso-pharyngeal arises from the medulla oblongata, and is distributed to the mucous membrane of the base of the tongue, pillars of the fauces, tonsils, soft palate, middle ear, Eustachian tubes, drums, and upper part of pharynx. It is a nerve of taste, sensation, and motion. The spheno-palatine ganglion supplies the tonsils, soft palate, uvula, pharynx, and Eustachian tubes.

The pneumogastric nerves, communicating with other important nerves, as the spinal accessory and the glosso-pharyngeal, and with important organs (four vital ones—the heart, lungs, stomach, and liver) supply the mucous membranes of these organs and that of the respiratory trail. They also supply the mucous membrane and muscular coat of the œsophagus, and send the superior laryngeal nerves to the mucous membrane of the larynx and crico-thyroid muscle. The inferior laryngeal nerve is a motor nerve, and supplies all the muscles except the crico-thyroid.

The spinal accessory nerve is a motor nerve, arising from the medulla oblongata and spinal cord, but receives sensitive filaments from the pneumogastric. It has external and internal branches, unites with the inferior laryngeal and recurrent branches of the pneumogastric, supplies the cleido-mastoid and trapezius muscles, and gets sensitive branches from the first, second, and third cervical nerves. The internal branches are directly connected with the vocal movement of the larynx; the external with respiration. The hypoglossal arises from the medulla oblongata, and is a motor nerve of the tongue, but receives sensitive filaments from other nerves after it leaves the brain.

The facial nerve, arising from the medulla oblongata, is a motor nerve to the muscles of the face, to those of the external ear, and, by its tympanic branches, to the stapedius and laxator tympani, through the otic ganglion, the tensor tympani, through and by connection of its trunk with the vidian by the petrosal, the levator palati, the azygos uvulæ and a few muscles of the neck, and receives sensitive filaments from the fifth.

The fifth nerve, the great cranial nerve of sensation, is divided into three branches. First is the ophthalmic, which supplies the lachrymal gland sac, conjunctiva and ophthalmic ganglion of the sympathetic and nasal branch to Schneiderian membrane.

The second division—the superior maxillary—supplies the teeth of the upper jaw and mucous membrane of the antrum maxillare, and the third division, the inferior maxillary, supplies the external ear and meatus, filaments to anterior two-thirds of tongue, lining of cheek, fauces, and lower jaw, integument of chin, lower lip, and lower half of face and muscles of mastication. It is both a sensitive and a motor nerve.

Through the medula oblongata and spinal cord, irritation of the mucous membrane of the upper air passages is conveyed to the brain, to the arm, forearm, and hand by the brachial plexus, to the chest and its contents by the dorsal and sympathetic nerves, to the abdomen and its contents by the lumbar and sympathetic, and to the lower limbs by branches given off from the lower portion of the spinal cord and the sympathetic.

Neuralgia, partial paresis, hyperæsthesia, analgesia of the extremities, epilepsy, chorea, and accompanying chronic naso-pharyngeal catarrh, are readily explained through reflex irritation, and subside when proper treatment is given the catarrh.

The sequels of naso-pharyngeal catarrh are, reflex cough, sneezing, stenosis of nasal cavities, ocular catarrh, asthenopia, aural catarrh, headache—either frontal, vertical, or occipital—nasal polypi tonsillitis, enlarged tonsils, hypertrophy of the sub-maxillary, anterior and posterior cervical glands, patulency of Eustachian tubes, hemorrhage from the throat—either the naso-pharynx, larynx, or trachea—epistaxis, laryngitis, tracheitis, bronchitis, and catarrhal phthisis, neuralgia, or numbness of the limbs or trunk, anæsthesia or hyperæsthesia of the skin, paresis of arm and forearm, dyspepsia, hay-fever, irritability, melancholia, partial loss of memory or intellectual faculty, insomnia, frightful dreams, agoraphobia, vertigo, palpitation of the heart, neurasthenia, stammering, suicidal tendency, asthma, chorea, epilepsy, loss of taste, anæmia, anorexia, deafness, reflex irritation of the genito-urinary organs, an abundant discharge of nasal mucous or sneezing during coitus, aphonia, erythema and herpes of the nasal integment and lining, tinnitus aurium, otalgia, dysphagia, and constipation. In cases of naso-pharyngeal catarrh of long standing there is a tendency to catarrhal inflammation or debility of all the mucous membranes of the body.

In conclusion, the writer acknowledges the valuable assistance obtained from Bosworth on Diseases of Nose and Throat in elucidating the pathology of chronic catarrh of the upper air passages, and to Rumbold on Hygiene and Treatment of Chronic Catarrh for hygiene, prophylaxis, ætiology, symptomatology and treatment of naso-pharyngeal catarrh; and especially to Dr. Rumbold for the cuts contained in this communication. The article is written by request of a number of general practitioners in the South and Southwest. Since publishing my paper on Sequels of Chronic Naso-pharyngeal Catarrh Illustrated by Cases from Private Practice in Gaillard's Medical Journal for April, 1884, many letters have been received from the profession asking for another contribution on the treatment of catarrh in detail. In order to elucidate the treatment successfully it was thought best to discuss the ætiology, pathology, symptomatology, prognosis and prophylaxis of catarrh prior to giving treatment, and should this article fail to meet with the approbation of the specialist, the writer feels that his efforts will have been crowned with success if a new impetus is given the general practitioners throughout the country, by which they will be enabled to relieve and cure many catarrhal victims who have neither the money nor time to consult a city specialist. Diseases of the nose, throat, and ear are so common now, that in every country town the general practitioner will have to devote a portion of his time daily to the consideration and treatment of them. The writer has given the medicines and instruments which have proven to be the best and most satisfactory during an experience and observation of ten years in the treatment of diseases of the upper air passages, and it has been the exception with him to use the post-nasal syringe or nasal probe in removing the secretion from the naso-pharyngeal cavities. In remarks on catheter, nasal douche and cleansing of the nasal cavities by suction from a sponge, the writer cannot endorse Bosworth's treatment of catarrhal inflammations of the upper air passages, as it is too severe and irritating. Moreover, the treatments are not frequent enough, and vaseline, the *sine quâ non* in the treatment of catarrhal inflammations of the upper air passages, is not even hinted at in his book on Diseases of the Nose and Throat.

ARTICLE IV.—TRAUMATIC EMPYEMA, PRODUCED BY A PIECE OF GRASS SWALLOWED BY THE MOUTH. By R. W. SEAY, M.D., Pilcher's Point, Louisiana.

On the night of the 10th of September, 1884, I was called to see Alice B., aged one year and three months, the messenger who came for me making the extraordinary statement that the child had been "spitting up its liver." On arrival at the house I saw a baby weak and feeble, with a pulse of 160, a temperature of 102, and a respiration of about 40. The lungs were resonant upon percussion, except at the lower portion of right lung, which gave a dull percussion note. The breathing was intensely puerile, and there were violent paroxysms of coughing, during which the child threw up a quantity of bright red blood. I inquired of its parents whether or not it had swallowed any irritating substance, and they said it had not, but that it had had fever for several days. It had been sick at intervals for several months, and had passed a number of lumbricoids at different times. I was shown an ordinary coffee cup three-quarters full of clotted blood, which the baby had coughed up, and this was what had been taken for its liver by the horror-stricken parents. The blood was in tenacious coagula, and I softened and dissolved some in tepid water, but found other small masses which would not dissolve, and which afterwards proved, upon examination, to be shreds of mucous membrane. There seemed to be both hæmoptysis and hæmatemesis, the latter being probably due to the violent and continued coughing. I gave fluid extract of ergot every fifteen minutes, later alternating with it aromatic sulphuric acid. Crushed ice was given every five minutes. There was much prostration and feebleness of pulse, but the sulphuric acid soon gave increased strength as it circulated through the arterial system. In four hours the flow of blood was checked, and as soon as this had been attained I omitted the acid and gave in its place iced milk. The fever, cough, and expectoration of mucus continued for several days, the physical signs showing the existence of pneumonia. I used nitre, tincture aconite, tincture veratrum viride, and syrup ipecac, which kept the fever and cough under control, and also employed quinine in small doses, for its restorative effect. By the 17th the fever had abated considerably, and everything looked well for a successful recovery. On the 19th, however, I found on the lower and back part of the right lung, below the seventh rib, a soft enlargement of considerable size. I used a hypodermic needle in two places and found pus. In the first exploratory introduction there was some obstruction to the needle, and hence my second puncture. I lanced, and there was a profuse flow of pus, which continued until the 21st, when I injected carbolized water, and placed in the opening a drainage-tube, as the water ran out at the two exploratory punctures. When I inserted the tube, which was a quarter of an inch in diameter, I passed a thread through the outer end and tied it loosely to the clothing, to prevent its being drawn into the pleural cavity. Later the parents tied the tube in tightly, and the orifice in the pleura being half an inch wide, I could see between the visceral and parietal layers for two inches. On the 25th, in the place where I made the first exploratory puncture, I discovered that there was something in the opening, and pulling this out I found it to be a piece of grass. When I showed it to the parents they for the first time told me that the child had swallowed it many months before, but that they thought it had coughed it up, as it had a violent attack of coughing just after swallowing it. On the 28th there was slight redness around the two orifices where I had punctured and lanced the abscess. I had removed the tube on the 25th. On October 2d there was an adhesive inflammation around and near the two orifices, and on the 4th they were completely closed. The child had some trouble in the right side for some weeks, but otherwise made a rapid recovery, and up to the present time, March, 1885, is well and strong for its age. The hemorrhage was apparently caused by the rupture of some of the minute arteries of the lung from the ulceration produced by the grass in its passage through its tissue. It was a piece of Fantail grass, having a beard and stem each an inch in length; and the time that elapsed from its entrance into the air passages to its discharge through the chest walls was six months and twenty days.

ORIGINAL TRANSLATIONS.

[*Concluded from page* 269.]

CLINIQUE DE LA PITIE. M. DEBOVE. LECTURES UPON PARASITIC TUBERCULOSIS. Reported by DR. FAISANS, *Chef de Clinique*, and Revised by the Professor. From the *Progrès Médicale*. Translated by H. McS. GAMBLE, M.D., Moorfield, West Va.

I come now to the cases of secondary phthisis, that is to say to phthisis which is developed in the course of convalescence from other diseases.

Inflammation of the respiratory tract ought to be cited here, in the front rank. Every one knows, even among the unprofessional, that phthisis often makes its début by a bronchitis, a cold; but this initial cold has received different interpretations; some consider it as symptomatic of phthisis, and this opinion is the one most generally accepted; others, and we are of that number, regard the bronchitis as at first simple, the phthisis as consecutive.

Often, in fact, these cases of initial bronchitis are developed in strong, robust individuals, not predisposed by their personal or hereditary antecedents. Directly after a cooling off, they are taken with a chill, a cough, and present the phenomena of an acute inflammation of the bronchial tubes. They are cured; then, after a variable length of time, they present the signs of a tuberculosis limited to the apex of the lung.

It is difficult to understand how tuberculosis could have at the first onset given rise to a general bronchitis, to limit itself afterwards to a determined point. Do we not see, on the contrary, in those parts of the respiratory tree accessible to our methods of investigation, in the larynx and the trachea, the lesions of a laryngitis and of a tracheitis which are perfectly cured?

The partisans of the spontaneity of tuberculosis may maintain that the bronchitis was at first simple, that it became tuberculous under the influence of the diathesis; that is to say, of a general condition which, under the influence of the most diverse and ordinary causes, will generate tubercles in the organism, but we can hardly understand how this generalized bronchitis can give rise to tubercles only at a limited point. We do not recall the far graver objections drawn from the presence of parasites in the neoplasms.

It is probable that bronchitis exposes to tuberculosis, because the bronchical secretions offer to the bacilli an excellent medium for development, and that the desquamation of the epithelium or its weakened resistance easily permits their inoculation.

As to the parasite, it is so common, so diffused in our hospital wards and in all places where men are agglomerated, that every individual attacked with bronchitis runs a real risk, so that he ought to put himself as far as possible under protection from the contagion. If he neglects all precaution, and becomes phthisical, the common people will evidently be right in saying that such a patient has become the subject of phthisis, to use their expression, in consequence of a neglected cold.

In order to make our idea clearer, we will compare what takes place here with what happens in the case of erysipelas, a disease equally contagious and parasitic. A patient having a simple, uncomplicated wound, giving rise to no fever, is advised to keep his room; not to go out for fear he may contract erysipelas, because, in fact, the wound offers a door of entrance to this disease, and the more the patient shall move about in different places, the more risk he will run of being affected with the contagion, of encountering the germ of erysipelas. It is the same thing with the subject attacked with bronchitis; he has a bronchial wound, he is in the condition in which he will be easily inoculated, if by chance the parasite of tuberculosis enters into his respiratory tract.

So it is for subjects attacked with bronchitis that a sojourn at the hospital is peculiarly dangerous, for nowhere do the parasitic germs present themselves in greater number. We will even say that the great danger of contagion exists almost exclusively for subjects attacked with bronchitis.

It is perhaps to such a cause that we must attribute the phthisis of the patient in No. 20 of the ward Jenner. He is forty-six years old; his father (eighty-seven) and his mother (seventy-seven) are in good health. He had fifteen brothers and sisters who died the same week of cholera (epidemic of 1849). In November, 1881, he made a short sojourn at the hospital Tenon, being attacked with an intense bronchitis, which was rapidly cured. The first of March, 1883, he came under our care attacked with pleurisy, which necessitated a thoracentisis, and a short time afterwards we observed evident signs of phthisis.

Is it not possible to admit that this man, who enjoyed up to that time a good state of health, was affected by the contagion at the hospital when he was treated for bronchitis? This isolated fact can not evidently serve as a proof, but if you will recall the considerable number of persons affected with phthisis whose disease makes its appearance under analogous circumstances, you will recognize the fact that my interpretation is reasonable.

This influence of bronchitis explains to us how different persons—physicians, nurses, etc.—have been able, with impunity, to frequent the hospital for long years. This is less because they do not offer a ground favorable to the development of the parasite than because they have had no door by which it could enter.

However little you may believe in contagion, I warn you, nevertheless, not to come to the hospital, and even to keep your room the day on which you shall be attacked with a bronchitis a little intense; however little you should become contagionists, avoid the *neglected cold*. A comparison, borrowed still from the history of erysipelas, will make comprehensible the danger of the hospital under determined conditions.

We have, at this moment, three cases of erysipelas under our charge; they are patients who have been sent out of the surgical wards. They have been discharged from these wards because, placed in the midst of patients suffering with wounds, they constituted a veritable danger for their neighbors. In our wards the danger is less, because our patients have no wounds—no door open to the infection.

Likewise, the danger of the contagion of phthisis is inconsiderable for persons who come to the hospital when the epithelium of their bronchial tubes is intact.

It would be easy for me to multiply comparisons, and to show that for a series of diseases our epitheliums constitute a barrier, and that their erosion explains the infection of subjects who appear, at first sight, to have been no more exposed than others who remained absolutely free from it.

Bronchitis, dangerous for the sound person by exposing him to tuberculosis, is equally dangerous to the tuberculous subject whom it exposes to auto-inoculation.

All physicians know, in fact, that bronchitis aggravates phthisis. Some have sought to explain it by saying that inflammations gave a sort of impetus to tuberculosis; this is only a simple comparison. It is more rational to admit that a person having phthisis may inoculate himself. His bronchial tubes, when they are still sound, support very well the contact of the expectoration, and, consequently, of the bacilli coming from the diseased parts; should they become inflamed, there may be produced, at various points, inoculations which cause the disease to make a rapid extension.

It is, moreover, easy for you to observe upon the larynx this influence of inflammation. The subjects of phthisis may contract catarrhal laryngitis; it presents before the laryngoscope no special character; it appears to get well at first, then assumes a chronic phase and causes a laryngeal phthisis. The passage of the expectoration had given rise to no disorder in the larynx covered with a sound epithelium; it gives rise to a tuberculous laryngitis by inoculation, when inflammation has caused the epithelial covering to fall off, or has diminished its resistance. Louis, Trousseau, and Belloc admitted the morbific action of the expectoration at a time when the existence of the parasite was not even suspected.

Auto-inoculation becomes also a cause of intestinal tuberculosis, and of the pharyngeal, of the buccal form, etc., and it is probable that here also anterior inflammation of the mucous membrane plays an important rôle.

These facts were explained by the theory of the diathesis. It was said that every inflammation became tuberculous in a subject possessing the tuberculous diathesis.

But we have performed, at different times, a series of experiments which show that inflammation does not suffice to produce tubercles in a tuberculous subject. After having carefully kept up issues in patients far advanced in phthisis, and that during the months which preceded their death, we have not observed upon the issues, at the time of the autopsy, any tuberculous lesion, macroscopic or microscopic. These issues must very rarely become the point of departure of tuberculous ulcers, for we know of no example of it; such accidents ought, however, to be observed if simple inflammations suffice to provoke tubercles in the subjects of the diathesis. They would certainly be produced if* issue peas were moistened with the expectoration of the patient.

The influence of bronchites upon the development of phthisis is so true that we do not know, so to speak, a single disease with a bronchial determination which does not predispose to phthisis; such are professional bronchitis, measles, hooping-cough, influenza, etc.

Among the professional bronchites come in the front rank those produced by the inhalation of dust of various kinds. These foreign bodies provoke inflammation of the respiratory tract and open the door to phthisis. If the bronchitis is habitual, the door being, so to speak, constantly open, the parasite ends by entering. Add to that that the workmen attacked with bronchitis of this kind work in common, and that those who are already subjects of phthisis contaminate the others. This is what a baker boy explained to us, in his way, whom we examined before you at our last visit. He informed us that, in good health up to that time, he had commenced to cough the day on which he had been exposed to the dust of the flour. Having asked him for information as to the health of the workmen who worked with him, he answered us that all were more or less ill with consumption; that several had, for grave affections, been obliged to enter the hospital. There is nothing astonishing in the number of consumptives being so high among these workmen; by profession they are exposed to the dust, that is to say, to bronchitis; they are, moreover, in constant relation with comrades of whom a certain number are already affected with tuberculosis. Measles, hooping-cough, influenza, have an influence noticed by all authors, upon the development of phthisis.

It is still by their bronchitic element that they predispose to phthisis, and the danger is singularly increased if the patient is treated in a medium infected with tuberculosis, at the hospital for example. "At the hospital," write MM. Rilliet and Barthez, "we have observed one case of tuberculization to eleven cases of primary measles. In the city, at Paris and Geneva, we have gathered some very positive facts about rubeolous phthisis, but the proportion has been much less than at the hospital. There is nothing astonishing in this fact, when it is known from what population the children are recruited who occupy the wards of the hospital."

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*Pois à coutire.

The opinion of these authors is so much the more important, as they have reported their observations without any preconceived ideas. The result established, they thought that tuberculosis ought to be attributed to the general bad state of the subjects, a very vague and a very problematical cause.

For the adult attacked with measles, the sojourn at the hospital is not less to be dreaded. Thus, Michel Levy has studied the complications consecutive to measles among the soldiers. During a period of thirteen months, out of one hundred and twenty patients attacked with measles, sixteen returned to the hospital; eight were manifestly tuberculous; eight others presented affections of the respiratory apparatus, to which tuberculosis was perhaps not foreign.

Hospital contagion explains to us also the opinion of Grisolle, who, contrary to Rilliet and Barthez, considers measles as an exceptional cause of phthisis.

"In more than a hundred cases of measles," says Grisolle, "which I have seen in the last few years at the Lyceum Napoleon, among children of very different constitutions and dispositions, I have not observed a case of consecutive phthisis." But here the hygienic conditions are entirely different from those of the hospitals for children. The sick treated in the infirmary of a Lyceum live in a medium where the subjects of phthisis are not kept. The tuberculous children do not sojourn in this infirmary; they are sent back to their families and cannot contaminate their comrades attacked with measles. We may then say that the possible contagion of tuberculosis is one of the causes of the gravity of measles at the hospital, a gravity which contrasts singularly with its benignity in the city.

We see much less frequently than after an attack of measles, but often enough still, a tuberculization consecutive to a case of hospital typhoid fever; I observed three cases of it last year, and one of the patients actually in our wards presented the first signs of tuberculosis during convalescence from typhoid fever. The typhoid patients present, in fact, all the conditions for contracting phthisis in an infected medium. They have bronchitis, an element of their disease, and, by the duration of their fever and the diet which they have to observe, they find themselves under conditions of impaired nutrition, which prepare a ground eminently favorable to the development of bacilli. So are we astonished, not that this tuberculization is produced in typhoid fever, but that it is not more frequent?

Besides the affections which we have just passed in review, and which, through the bronchitis by which they are accompanied, prepare, so to speak, a medium of culture and door of entrance to the tubercle bacillus, there are others which are considered as playing a great rôle in the production of phthisis, such as hæmoptysis, pleurisy, stricture of the pulmonary artery.

Hemoptysis may be observed at all periods of pulmonary phthisis. At the stage of caverns it is sometimes considerable; its abundance, its gravity, are explained by the nature itself of the vascular lesions which give rise to it.

At the début of tuberculosis, it is, in general, much less abundant; it is rare that it constitutes a danger of itself, but it is no less interesting to study on account of its diagnostic value. It may show itself at a time when there does not exist as yet a stethoscopic sign and there is nothing to cause a suspicion of the existence of a pulmonary lesion. This initial hemoptysis led Morton to admit *phthisis ab hemoptoe.* This theory was renewed by Niemeyer, who maintains that the blood poured into the alveoli produced a pneumonia which, becoming caseous, ended in an ulceration of the lung. To-day this theory of the initial hemoptysis might still be adapted to the parasitic doctrine, and it might be said that the effused blood forms an excellent medium of culture for the tubercle bacillus; thus would be explained why the sanguineous effusions not in communication with the air, such as those of the brain, of the liver, of the muscles, etc., do not become tuberculized. But, in this theory of the initial hemoptysis, one is always singularly embarrassed to find a cause for the spitting of blood; so it has never had any great success. To-day we can combat it by showing that there already exist tuberculous pulmonary lesions at the period when the hemoptysis takes place. In fact, in the blood expectorated by the patients Hiller has been able to recognize the presence of the bacilli, and to affirm therefore that hemoptysis was an effect and not a cause.

I will remark, in passing, the clinical importance of a research which demonstrates in an evident manner the nature of the disease, at a period when no other sign permits us to affirm the diagnosis.

Like hemoptysis, pleurisy is capable of two interpretations. We often see tuberculosis succeed an attack of pleurisy; some admit that the pleurisy was already tuberculous, that tubercles had already formed in the pleura, although they did not exist, or were very scarce, in the lung; others maintain that the pleurisy might have been the cause of the tuberculosis. For my part, I believe that pleurisy is sometimes the effect and sometimes the cause of tuberculosis.

Certain diseases present insidious pleurisies, of slow progress, which are accompanied by a general derangement of the health disproportionate to the local lesion. In such a case there are many chances of being on the true road in diagnosing a tuberculous pleurisy. But when the disease makes its début brusquely, with all the signs of a frank phlegmasia, it seems to me difficult to admit that the tuberculosis is the cause of it; and, if the patient becomes tuberculous later, it is logical, in my opinion, to consider the second disease as a consequence of the first.

We have at this moment, in the beds of Ward Jenner, a type of this phthisis consecutive to pleurisy. Nothing in his hereditary or personal antecedents seemed to predispose this patient to phthisis. One day in the month of December last, after having worked in a cellar, he came out in a perspiration, and mounted on top of an omnibus. He was immediately taken with a chill and a pain in the side. At the hospital where he was admitted a few days afterwards, a pleurisy was recognized and was tapped, and the cure followed quite rapidly. But, after a few months, the man returned to the hospital, and you can discover to-day at the apex of his right lung, the signs of a tuberculous induration in process of softening.

Does it not seem to you that here the pleurisy has preceded the phthisis? Our patient had no hereditary predisposition, the action of the cold has been very evident, and the début of the pleurisy has immediately followed this action of the cold. At the hospital thoracentisis is practiced, and the patient is dismissed apparently cured. But, treated in an infected medium, he becomes tuberculous and returns a few months later to our care. It would be very interesting to support this view by statistics establishing the relative frequency of tuberculosis consecutive to pleurisy in the hospitals and in the clientèle of the city and of the country.

The impression which I have received in my city practice is that tuberculosis consecutive to pleurisy is much more rare than at the hospital, but the number of facts observed is not sufficient to permit me to give any figures.

The rôle of pleurisy admitted, you will ask me why a pleuritic, exposed to contagion, will be more easily affected than a sound person. It is probably because, under the influence of the compression of the lung, there is developed a certain degree of pulmonary inflammation and bronchitis which may facilitate the penetration of the germs, and also because there is produced, under this same influence, an obstruction to the pulmonary circulation, a relative anæmia which favors the development of tuberculosis.

The rôle of this anæmia is demonstrated by the preference so marked of the tubercles for the apices of the lungs and by the effects of the compression of the pulmonary artery. Tuberculosis has, in fact, an evident predilection for the apex of the lung; it is there that it makes its début, and, when it has extended to the whole organ, the lesions are always much more advanced in the upper than in the lower parts. With Professor Peter, we believe that we ought to attribute this predilection of the tubercles for the apex to the fact that the circulation of the blood is there much less active than at the base.

Another example shows more directly the influence of the anæmia of the lung upon the development of tuberculosis; it is that of phthisis consecutive to stricture of the pulmonary artery. It is observed not only when there exists a lesion proper of the artery or of its valves, but also when a tumor of any kind (aneurism, degenerated or inflamed ganglions, cancers, etc.) comes to compress the vessel and obstruct its circulation. But, how explain that tuberculosis is the end of these different causes, if not in incriminating the insufficient irrigation of the lung?

Inversely, those subjects who are habitually attacked with pulmonary congestion are but slightly disposed to tuberculosis. The subjects of heart disease, for example, like those of emphysema, rarely become affected with phthisis. I have finished here what I wished to say of the etiology of tuberculosis; this etiology may be résuméd in a few words. Tuberculosis is a contagious, parasitic disease, and no one becomes tuberculous if he does not receive the germ of the disease from without. This contagion is rendered possible or is facilitated by peculiar conditions inherent to the individual, hereditary or acquired; but these conditions act only by preparing the soil or by facilitating the penetration of the germ.

In touching upon the pathological anatomy of tuberculosis before you, I have no intention of entering upon the details which such a study would necessitate. My aim is simply to show you how the new views accord with what was known of old, and how the parisitic theory, far from complicating things, has come to simplify them, by throwing an unexpected light upon facts which still remained very obscure.

You remember the great difference of opinion which has, since the time of Laënnec, divided pathologists upon the subject of tuberculosis. Laënnec described two kinds of lesions in phthisis, isolated bodies, miliary tubercles, crude yellow tubercles and infiltrations. But these two lesions were, according to him, identical in nature and differed only in their form; they presented an equal tendency to softening, whence resulted, after the elimination of the softened substance by the bronchial tubes, the formation of caverns.

Laënnec's doctrine of unity reigned until 1850. At that time Reinhardt and Virchow contended, basing their opinion upon pathological anatomy, that the greater portion of the lesions which Laënnec described as tuberculous were only inflammatory lesions and by no means specific. The phthisiogenetic processes were thus separated, and comprised, on the one hand caseous pneumonia, on the other nodular tubercle or gray granulation.

The Germans were not slow to carry into the domain of clinics the dualist theory established by pathological anatomy. Bühl contended that tuberculosis was never anything else than the result of secondary infection of the organism from a caseous focus, and Niemeyer said, under the form of an aphroism, that the worst thing that could happen to a subject with phthisis, was to become tuberculous. In France, the duality of phthisis seldom found among the clinicians other than decided adversaries. Among the anatomo-pathologists, some adopted entirely the German views, others sought to control them, and admired them only with a good deal of reserve.

The best means of deciding the question would have been, without doubt, to discover the specific element of tubercle, if by chance it should exist, and to see if this element was found without distinction in all the lesions, or if it existed only in some of them to the exclusion of others. Already, before the labors of Reinhardt and Virchow, Lebert had described an element of special form, which he found in all the lesions attributed by Laënnec to tuberculosis; but there was no trouble in demonstrating that this pretended element of a specific nature was only a map of dead cells, and the *tuberculous corpuscle* of Lebert went to join the cancer cells in oblivion.

More recently, some have wished to make the giant cell, described by Schüppel, play the same rôle. But, the giant cell is a common element which is found in an infinity of lesions which have nothing in common with tubercle. Jacobson has demonstrated their existence in the granulations of wounds, and Ziegler, placing under the skin two thin plates of glass, saw a great quantity of these cells deposited between them; whence he concluded that they result simply from the fusion of the leucocytes.

It was necessary, then, in order to establish the unity of phthisis upon a more solid basis, to turn their researches in another direction, and to see whether the characteristic of tubercle resided, not in the form of such or such an one of of its elements, but in its structure itself and in the relative disposition of all its parts.

The investigations undertaken with this view by MM. Grancher and Thaon, investigations which have been confirmed by those of Professor Charcot, have led to important results. In studying comparatively the tubercular granulations and the isolated nuclei of caseous pneumonia, M. Grancher became convinced that both presented the same general type of structure and differed only by their form and value. In each lesion is found at the centre a caseous zone, at the periphery a zone of embryonic cells, and, between these two zones, giant cells; only, whilst in the granulation those different elements are grouped in a manner to form a small, isolated tumor; in caseous pneumonia, on the contrary, they form voluminous and irregular masses which have a great tendency to increase and to become confounded with the neighboring masses.

There is still another difference which results from the tendencies of evolution of these lesions. The large tubercles of caseous pneumonia have a much more rapid march and break down much more rapidly than the small nodular tumors; to this anatomical evolution corresponds a special clinical evolution, which recalls that of pneumonia; it is for this reason that M. Grancher gives to this form of tubercle the name of pneumonic tubercle.

From this identity of structure it resulted very evidently that caseous pneumonia and tubercular granulation were not, anatomically, essentially different, and it was the best answer to address to the defenders of the dualist theory, who based their views precisely upon the pretended anatomical differences existing between the two lesions. But M. Charcot pushed the demonstration further. He showed that every tuberculous lesion, whatever be its form, whatever its volume, is reducible to microscopic nodules, which are elementary tubercles, or tuberculous follicles. The latter are constituted by a giant cell or centre, a medium zone of epithelioid cells, and a peripheral zone of embryonic cells. They are, so to speak, tubercles reduced to their simplest expression. They remain sometimes in the state of isolation, as in the granulation tissue of white tumors in which Koster has first described them, or they become fused with other follicles, and, according as the agglomeration contains a more or less considerable number of them, they compose all the varieties of tubercle, from the miliary tubercle of chronic phthisis, to the giant tubercle of caseous pneumonia.

Resting upon these investigations, we might believe the question of the unity of phthisis definitely settled; these anatomical investigations were accepted so much the more willingly as, I repeat it, upon clinical grounds. The conception of Laënnec had hardly ceased to be in vogue. And yet, we are obliged to admit to-day that these conclusions were premature. I have elsewhere spoken to you of the experimental investigations of M. Martin; I have told you that, by certain inoculations of inert powers, we could produce lesions identical with tubercle, as well in a histological as in a macroscopical point of view, and which, nevertheless, were not tubercle, since they did not possess its virulence. The existence of this pseudo-tuberculosis seemed to prove that pathological anatomy is powerless to establish the nature of the veritable tubercle, since the latter can not be defined either by the form of its elements, or by their grouping; and, even to-day, we would have no right to proclaim the unity of phthisis if it was not demonstrated by arguments of another order. These arguments are precisely furnished by experimental medicine. Phthisis is one, because all the lesions which it produces are inoculable and virulent. And as this virulence depends upon the presence of a parasite, it may be said that the bacillus is the sole characteristic element of tubercle.

We must study now the disposition of the bacilli in the tuberculous substance. You know that tubercles are often developed along the course of the vessels; that is easy to determine, even with the naked eye, upon the peritoneum and upon the meninges. The vessel, at the point of the lesion, is obliterated by fibrine, and around it are seen the different zones which constitute the granulation. Bacilli are found in coagulated fibrine, in the walls of the vessel; they are also seen in the substance of the tubercles itself, and the elements in which they are most frequently met with are the giant cells. Sometimes they form in the interior of these cells veritable bunches. They are also often found in the leucocytes which constitute the peripheral zone of the granulation, and this may have a certain importance from the point of view of the generalization of tuberculosis. You know, in fact, that the parasite is immobile; but it is perhaps mobilized through the medium of the white cells; the latter have the property of going out of the circulatory torrent and of re-entering it again, of traveling in the connective tissue, and it is not impossible that they serve as a vehicle to the bacilli to transport them from one point to another.

The bacilli exist in all tuberculous products, but above all in the transparent granulations. They are more rare in the caseous masses, and yet the latter present a virulence equal to that of the granulations. This perhaps arises from the fact that the parasites partly destroyed are found only in the state of spores invisible to the microscope.

The bacilli occupy, besides, the walls of caverns and the débris of tissue which float in the interior of the excavations; finally, they are found in the lymphatic vessels and ganglions. This leads me to say a few words to you about scrofula, for this discovery of the parasite of tuberculosis in the ganglions called strumous takes away from scrofula one of the affections which was considered as the most constant and most characteristic manifestation of this disease.

The field of scrofula had already been singularly restricted for some years past, to the advantage of tuberculosis, thanks to the histological researches which had successively detached from it fungous arthritis, sub-cutaneous gumma, lupus, etc., by showing that the fundamental lesion of all these affections was the tuberculous follicle. Anteriorly to these researches, M. Villemin had already shown that inoculations made with fragments of strumous ganglions produced the same effects as those performed by aid of tuberculous substance; but neither histology nor experimental medicine had succeeded in shaking the old convictions of the majority of physicians.

To-day it is no longer allowable to hesitate, for it seems demonstrated that the lesions reputed scrofulous contain the bacilli of tuberculosis. They have been demonstrated in the pyogenic membrane of cold abscesses, in the pus of congestive abscesses proceeding from vertebral caries, and in the pus and the fungosities of white tumors; lupus itself is not exempt from them. If these researches are verified, scrofula will not only be restricted, it will cease to exist, and it will be necessary to erase it from the nosological list.

Permit me, gentlemen, not to insist further upon the lesions of tuberculosis, which are so well described in your classical works; as to the topography of bacilli, it is principally indicated in a memoir of MM. Cornil and Babès, a memoir which these authors have communicated to us before its publication, and which I advise you to read.

SELECTIONS.

THE LEPROSY-BACILLUS. By JOHN LINDSAY STEVEN, M.D., Assistant to the Professor of Clinical Medicine, Glasgow University, etc. The general characters of the leprosy-bacillus (bacillus lepræ) have been so thoroughly investigated, and so well described, within the last five or six years, that my chief reasons, and also excuse, for recording the results of the examination of the following case are (1) that I may add to the, as yet at least, comparatively small number of investigations on this subject, and (2) that I may point out how far my own somewhat limited observations agree with what has been recorded by others.

Since the publication of Virchow's book on tumors, there has been but little difficulty experienced in assigning to leprosy its place amongst those diseases whose chief morbid feature consists in the development of areas of granulation-tissue in different parts of the body. Next to Virchow, perhaps, we owe one of the most careful and accurate accounts of the histology of leprosy to Dr. R. Thoma, and we are also much indebted to the labors of various Norwegian investigators on this subject. The next advance in our knowledge of leprosy was made when it was demonstrated that a bacillus was always to be discovered in the areas of morbid tissue. The bacillus was first demonstrated in 1873, to the Medical Society of Christiania, by Hansen, of Bergen. The discovery does not seem to have excited very much attention, until the publication in 1879 and 1880 of Neisser's very careful and elaborate investigations, when Hansen at once proceeded to establish his claim to priority by publishing, contemporaneously in English, French, and German, a paper on the subject. In addition to the work done in Norway and Germany, very careful investigations have been carried out in France by Cornil and Suchard; and in our own country the labors of George Thin, of London, in this particular department of research, must also be mentioned. Following upon the discovery of the organism came the attempt on the part of many to reproduce the disease in the lower animals by means of inoculation. The results of these experiments have been rather conflicting, some seeming to show that it is not possible to reproduce the disease, whilst others would indicate that at least a localised leprosy may take place. With special reference to this department of the inquiry may be mentioned, in addition to the above, the works of Köbner and of Damsch.

The man whose skin I have had the opportunity of examining is a patient in the cutaneous wards of the Western Infirmary, Glasgow, under the care of Professor McCall Anderson, at whose request I undertook the investigation, and to whose kindness I am indebted for the following particulars of the clinical history. He is a hawker of coals, aged twenty-five, and was admitted to the infirmary on February 4, 1885, complaining of a tubercular eruption of the face, arms, and legs of nine years' duration, and of aphonia of one year. The following is the note entered in the ward-journal of his condition on admission. There are patches on the upper and lower extremities, rounded in form, and varying in size from a cherry to a walnut. These patches have always tended to grow to a certain size, to remain so for an indefinite period, and then gradually to become less and disappear, leaving only a staining and slight thickening of the skin. The features are greatly distorted, the tissues being infiltrated, and the natural lines of the surface much exaggerated. The skin of the forehead is thickened and corrugated, and the tissues above the eyelids project and hang down so much as to interfere with vision, especially of the left eye. The eyelashes and eyebrows are almost gone. The lips are enormously increased in size, and, since he fell on his face a year ago, there has been on the forehead and nose a tendency to ulceration. On the arms the erruption is chiefly confined to the extensor surfaces, extending from the shoulder to the wrists, being macular over the shoulder, but elsewhere tubercular. The hips and front of the knees, and the posterior surfaces of the leg and feet, are also involved. The skin of the feet has a more or less white and silvery appearance, and there is a tubercular condition of the scrotum and prepuce. He cannot speak above a whisper; the tongue presents deep fissures, and there is a slight difficulty in swallowing.

From these notes it will be seen that the case is one of typical tubercular leprosy, and, as the history and treatment have been fully recorded by Dr.

Anderson, it is unnecessary to dwell further upon it. I may simply add that the patient was born and brought up in India, where he contracted the disease, that he has been under observation more or less for a period of six years, and that, in 1879, when he was for a lengthened period under Dr. Anderson's care, he was considerably benefited by treatment.

Having thus briefly described the main features of the case, I now proceed to indicate the methods by which the bacilli were sought for and found.

The surface of a large and not very old tubercle on the left forearm was frozen with ice and salt, and then a small elliptical portion of the skin was excised. This was at once placed in absolute alcohol, in which it was kept for some days to harden, after which sections were made. As the portion of skin I was able to get was very small, it had to be very cautiously dealt with; notwithstanding, I managed carefully to prepare and examine about thirty specimens. Two dyes were made use of to stain the bacilli; namely, fuchsin and gentian-violet; and two different methods of procedure were employed, namely, Ehrlich's method for tubercle-bacilli and Gram's method. As the former of these methods is now well known and extensively employed, it is unnecessary to describe it further; but, as Gram's method is much more recent and gives very beautiful results, I may perhaps be excused for referring to it a little more in detail. Ehrlich's solution of gentian-violet in anilin-oil water is prepared in the following way: Four parts of anilin-oil are placed in 100 parts of water, shaken well for about a quarter of an hour, and then filtered—the filtrate should be perfectly clear. To 100 parts of this anilin-oil water solution, five parts of a saturated solution of gentian-violet in alcohol are added, and the dye is ready for use. Now comes the first step in Gram's method; the sections, which must have been hardened in alcohol, are transferred from absolute alcohol to the above solution for a few minutes. They are then transferred for from one to three minutes to an iodine solution prepared as follows: Iodine, one part; iodide of potassium, two parts; distilled water, 300 parts. They are then brought into absolute alcohol, which practically decolorises them, and, after treatment with oil of cloves, are mounted in Canada balsam in the usual way, or they may be preserved in glycerine. With either of these methods the bacilli were easily demonstrated, although, perhaps, the most beautiful results were obtained by Gram's method. In order to study the exact relationship of the organisms to the tissue elements, a number of the sections were double-stained, the contrast dye being Bismarck-brown; and a few sections were carefully examined without staining, in order, as far as possible, to investigate the histology of the condition.

Having thus indicated the methods of investigation, I shall now proceed to describe the appearances observed. With regard to the histology of the skin it may be stated that the results of the examination, both of stained and of unstained preparations, agreed in the main with those of Thoma. The epidermis was unbroken, and showed all the layers of epidermic cells in a healthy state, with the exception, perhaps, that the deeper layers were unduly pigmented. As has been described and figured by Thoma, the rete mucosum was separated from the underlying leprous tissue by a thin layer of connective tissue. Beneath this thin layer came a dense infiltration of cells, which was more or less unbroken and continuous under the skin in a horizontal direction, and extended in depth from the rete mucosum to the subcutaneous fatty tissue. In the subcutaneous adipose tissue, it was found that the continuous character of the cell-infiltration had disappeared and had given place to more or less rounded masses of granulation-tissue (sometimes not at all unlike tubercules) which were often of considerable size. It was evident that these masses had replaced the normal adipose tissue, because they were often observed to be surrounded by coarse connective tissue bands, apparently the normal connective tissue trabeculæ of the subcutaneous tissue; and here and there, where the infiltration was less dense, round cells were seen insinuating themselves between the individual fat globules, and obviously exercising pressure upon them. Often, too, a few fat-globules were observed still remaining in the midst of a nodule of new cell-growth. As regards the nature of the cells composing this new growth, there can be no doubt that they mostly presented the characters of ordinary leucocytes or lymphoid corpuscles. Here and there they presented the appearance of epithelioid cells, and very rarely, if at all, were any cells of the nature of typical giant-cells observed. It is not at all improbable, I think, that the presence of large or epithelioid cells in the growth is to be explained, as shall be pointed out afterwards, by the action of the bacilli upon the round cells of the leprous tissue.

As regards the bacilli, they were present in the skin in simply enormous numbers, so much so as at first sight to suggest the idea that the swelling was probably in some measure due to the aggregation of the organisms. Examined with the A. A. of Zeiss (about sixty or seventy diameters), the sections presented the appearance as if the nuclei of the connective tissue were stained; this nuclear appearance being by far the most pronounced in the areas of granulation-tissue, and scarcely at all elsewhere. (In what follows I shall describe the appearances as observed in specimens prepared with gentian-violet, in which the organisms are blue or violet in tint, although exactly the same remarks apply to specimens treated with fuchsin, for which dye the organisms have great avidity.) With the D. of Zeiss it was seen that the blue staining of the sections was caused by two conditions: (1) by the presence of innumerable exceedingly minute rod-shaped bodies, and (2) by rounded blue-stained corpuscles, often of considerable size. The bacilli were situated in the rounded masses of granulation-tissue, as well as in the more diffuse infiltrations of round cells, but they were scarcely, if at all, to be discovered in the more normal portions of the sections. Thin states that in one of his specimens he found the organisms in the epidermis, but I have been unable to verify this, my observations in this regard agreeing with those of Cornil and Suchard. A more careful examination of the rounded blue-stained corpuscles already mentioned, showed that they were lymphoid cells swollen out and distended by the numerous bacilli contained in their interior. This observation was confirmed by the examination of sections which had been treated with Bismarck-brown as a contrast-stain. It was then seen that while the great mass of lymphoid corpuscles composing the new morbid tissue absorbed the brown color greedily, those containing bacilli retained their original violet color, and were generally somewhat larger and rounder than the other cells of the part. It thus became evident to me that the presence of the bacilli exercised some important alteration in the constitution of the cells, leading them to give a different color-reaction from the others, and, in this, as I found out afterwards, my observations agreed entirely with those of Neisser, who showed that the effect of the bacilli was to bring about an alteration in the chemical constitution of the affected cells. It thus becomes not at all improbable that the so-called "lepra-cells" are simply the granulation-tissue cells altered by the presence of the organisms in their interior.

The general arrangement of the organisms was often suggestive of their being contained within the lymphatic spaces; and I have more than once observed a narrow line of cells containing organisms or of free bacilli, extending through one of the strands of connective tissue already described, the whole appearance suggesting that these elements were contained in a minute lymphatic channel. I have also occasionally observed that the large bacillus-holding cells assume an elongated shape, as if they were contained within a very minute space or tube. These remarks, with reference to the intimate relationship existing between the morbid process and the lymphatics, are in agreement with the earlier histological researches of Thoma, and the more recent observations of George Thin and others, on the bacillus of leprosy. In addition to being contained within the cells, I am also of opinion that the bacilli exist abundantly in the free state, and then they are generally situated within the lymphatic spaces. Sections of blood-vessels were frequently observed in the specimens; but, so far as I could make out, no bacilli were contained within them. With regard to the presence of the organisms in the blood-vessels, considerable difference of opinion seems to exist; but Thin states that he has in some instances discovered them in the blood-vessels of the tubercles, and in this he is borne out by Kobner and others.

In order to study more particularly the characters of the bacilli themselves, the sections were subjected to examination by means of Zeiss's one-eighteenth oil-immersion lens, the entire system, by careful measurement, having been found to magnify about 1,000 diameters. The bacilli were then seen to be fine, minute rods of considerable length, occurring either singly or in groups, or in the interior of cells, as has been already described. They were often sharply pointed at each extremity, and almost all of them contained small rounded spores, which varied considerably in size in some instances, the larger spores being in the centre. The beaded appearance produced by the spores is very striking, and has been tolerably well reproduced in the wood-cut, the drawing for which was made to scale with the aid of the camera lucida. Neisser states that the bacilli may contain from two to three spores; but, as may be seen in the illustration, I was frequently able to count five. In addition to being sharp at the extremities, the bacilli are often slightly curved. According to Neisser the organisms are often surrounded by a mucoid covering; but this I have been quite unable to demonstrate. So far as I have been able to measure the bacilli my results agree with those recorded by other observers; namely, from four to six micromillimetres (that is, about one-five-thousandth of an inch, or from about one-half to three-fourths of the diameter of a red blood-corpuscle). I compared the organisms with specimens of the tubercle-bacillus, and while there can be no doubt that there is a great similarity in many points between them, I am of opinion that the leprosy-bacilli are considerably smaller and finer. With regard to the size of the bacilli, it is interesting to note that Cornil has shown that they are much smaller in the skin than in some parenchymatous organs; for example, the testicles, where they may measure from twelve to fifteen micromillimetres. In the wood-cut I have endeavored to show the appearance presented by the bacilli when they are contained in the interior of cells, and for this purpose I have drawn three of the large distended cells already described.

I have thus endeavored to give an accurate account of my examination of the skin in this typical case of leprosy, and so to add to the number of those observations which, I think, indubitably prove that leprosy is a disease entirely dependent upon the presence and development of a specific organic virus. As my investigations have been wholly limited to the examination of a portion of the skin excised from a living patient, I have not thought it either necessary or right to discuss the condition of the internal organs or to enter into the question of inoculation; but I may add that the researches of others, especially those of Neisser, have abundantly shown that wherever the lesions of leprosy are situated there the bacillus is to be found, and that while the results of attempts to induce the disease in animals are still conflicting, some trustworthy experiments would seem to indicate the possibility of its inoculation.—*British Medical Journal.*

FURTHER RESEARCHES ON PTOMAINES.

Alkaloids as agents in the causation of symptoms of disease have grown into great prominence during the past few years. The interest that attaches to "cadaveric alkaloids" is both pharmacological and forensic. Perhaps no one has done more for the advancement of our knowledge of ptomaines than Professor Brieger, who has recently published "Weitere Untersuchungen über Ptomaine."* As far back as 1866 Dupré and Bence Jones noted the presence of alkaloid-like substances in all the organs, tissues, and fluids of human and animal bodies. Owing to the fluorescent appearance of the solutions of this alkaloid in weak sulphuric acid, the name of "quinoidin" was given to it. Nevertheless, Dupré and Jones did not succeed in obtaining ponderable quantities of the pure substance. In 1869 Sonnenschein and Zülzer obtained from a maceration of muscle an alkaloid having the property of dilating the pupils of rabbits and dogs. When injected into the jugular vein of rabbits it increased the number of beats of the heart, and in two animals completely stopped the peristaltic action of the intestines. Rörsch and Fassbender found, in 1871, in the liver, spleen, and kidneys, by the Otto-Stass method, a body having alkaloidal properties. It was a tasteless, uncrystallisable substance, and gave, with phospho-molybolic acid, a precipitate which, by warming and the addition of ammonia assumed an intensely blue color. In the same year Schwanert extracted from the putrefying intestines, liver, and spleen of a child that died suddenly a peculiar smelling fluid body that dissolved in ether. On the supposition that this was an alkaloid formed during putrefaction, Schwanert analyzed the completely putrefied abdominal organs of a male corpse, and obtained a golden oil that smelt of propylamine, had a somewhat bitter taste, and gradually evaporated. The hydrochlorate of this body gave various reactions like those of alkaloids, but its toxicology was not investigated. L. Liebermann extracted from a putrefying stomach a coniine-like substance, which was taken up by ether from either alkaline or acid solutions. This substance had no poisonous properties. Traces of arsenic were found in the same stomach. In a trial for murder by poisoning, held at Brunswick in 1874, an expert in chemistry discovered, besides arsenic, a coniine-like base that Otto regarded as a ptomaine. It did not give the characteristics of nicotin, though resembling it in some respects. It was deadly poisonous, and killed a frog and a pigeon very rapidly. A similar kind of alkaloid was detected by Brouardel and Boutmy in the corpse of a woman who had died with symptoms of cholera, and who had partaken of a stuffed goose with ten other individuals. The base was also detected in the remains of the unwholesome goose. The substance was volatile, smelt strongly of mice's urine, and gave several reactions like those of coniine, though it differed in remaining colorless with muriatic acid, and could not be oxidized into butyric acid. It proved poisonous to frogs. In the cadaver resulting from prussic acid, and also in another due to charcoal fumes, the same authors discovered an alkaloid having a likeness to veratrin. Somewhat similar substances were also found in a body dead from arsenic, in one that had lain in water eighteen months, and in another that had succumbed from asphyxia. Wolkenhaar, again, extracted from the intestines of a woman who died from the excessive use of alcohol an alkaloid-like body having many features in common with nicotin; it was not toxic in its action. Morriggia and Battistini stated that dead bodies yielded much larger quantities of poison eighty days after burial in warm summer weather than when they were investigated in a shorter time after interment. These statements were made as the result of physiological experiments on frogs and rabbits. Extracts of the putrid tissues were made with pure or acidulated water, ether, ethyl-alcohol, or amyl-alcohol, and injected into the animals mentioned. Falling off in the number of heart-beats, loss of motility and sensation, and stopping of the heart in systole, were the phenomena noted. The name of Selmi stands out most prominently in this field of work. It was he, if we mistake not, who first coined the word "ptomaine," which indicated the cadaveric origin of the alkaloids. It is now known that bodies undistinguishable from those discovered in the cadaver occur under many other circumstances. We may refer our readers to the article by Dr. Wolfenden, published in the *Lancet* of 1883, Vol. II., p. 852. The investigations of Guareschi and Mosso may also be mentioned (the *Lancet*, Vol. I., p. 827, 1883). Brieger lays much stress on the following propositions: That in the different stages of decomposition in the human body different basic products are formed; that many ptomaines disappear, their place being taken by others; and that certain bases, though present in spare quantities at the beginning of decomposition, gradually acquire a greater prominence as other basic substances disappear. A certain analogy exists between the above-mentioned changes and those met with in the putrefaction of albumen. Nencki has shown that for the formation of indol a certain temperature is necessary, whilst the production of phenol, according to Baumann and Brieger, is independent of temperature. Odermatt has proved for indol what Brieger has for phenol—that it disappears completely to make place for other aromatic products. In the course of putrefaction, cholin, which is probably derived from lecithin, is perhaps the first alkaloidal substance to make its appearance. On the third day what Brieger has called "neuridin" ($C_5H_{14}N_2$) can be found. Neuridin forms with picric acid a picrate which crystallizes in feather-like masses of needles, which are almost insoluble in cold water and very difficult of solution in hot water. Neuridin is always found in company with cholin, but the latter gradually diminishes in quantity, whilst the former increases day by day. The fact that in slow putrefaction of human organs no strongly poisonous ptomaines can be shown to exist during the first few days deserves attention. About the time of the disappearance of cholin may be reckoned as the period when strong toxic products are developed. It is not known whether trimethylamin results from the decomposition of cholin or neuridin, but both these bodies contain its elements. Brieger refers to the appearance of a ptomaine on the seventh day, which has hitherto been unknown. One of his observations showed that this new base was present even on the third day, though in very minute traces. With platinum salts the new base formed dark red masses which were composed of needles mixed up with spangles and spicules. The purified crystals were of a somewhat brighter color, and were found by Dr. Hirschwald to be about two millimetres in length, and to belong to the rhombic system of crystals. The crystals proved, with polarized light, to be doubly refracting. The base also forms a beautiful double salt with gold. This new diamin ($C_5H_{16}N_2$) is termed "cadaverin," and boils at a temperature of 115° to 120° C.; unpleasant its odor is, reminding one of coniine. A third diamin has also been differentiated, having the composition of a butylendiamin ($C_4H_{14}N_2$), but its reactions prove it to be a secondary diamin. The absurd name of "putrescin" is given to this substance, which may be detected on the fourth day of natural putrefaction, but is not present in large quantities until a week later. A fourth diamin called "saprin" has also been isolated from the products of decomposition of human organs. Neuridin, cadaverin, putrescin, and saprin are physiologically almost harmless; cholin in large quantities produces physiological effects like those of muscarin; whilst trimethylamin must also be given in large quantities in order to cause toxic effects. Brieger has, however, found two powerfully poisonous ptomaines in the cadaver. These poisons existed in large quantities on the fourteenth and twenty-first days of decomposition. One of these bodies is named "mydalen"; it exercises marked effects on the various functions of the body, increasing the nasal and lachrymal secretions, dilating the pupil, stopping the heart and breathing, and causing paralysis and death. After large doses the heart is found to stop in diastole. Severe diarrhœa and vomiting were observed in a cat as the result of the injection of a minute dose of the poison. Brieger has also investigated the nature of the products resulting from the action of bacillii in various media. He has separated highly poisonous bases from cultivations of the Koch-Eberth bacillus of typhoid fever. Intense salivation, diarrhœa, and paralysis were some of the toxic effects produced by these poisons.—*Lancet.*

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* Berlin, A. Hirschwald, 1885.

THE SURGICAL AND PATHOLOGICAL ASPECTS OF GENERAL GRANT'S CASE.

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No case has excited a greater interest from a medical point of view than that of General Grant. Aside from the disease attacking a patient so widely known and so universally beloved, it has shown some features which are of surgical as well as of pathological significance. It is not the purpose of this article to treat of details of description or of treatment, as such will probably be left for elaboration by Dr. J. H. Douglas, whose constant attendance upon the patient best qualifies him for the performance of such a duty. It is not definitely known when the throat trouble commenced, but probably it was early in June, 1884, as at that time General Grant first complained of soreness in the right tonsilar region. In October, after his return to New York from Long Branch, one of the lymphatic glands under the right angle of the lower jaw became enlarged, and he consulted his family physician, Dr. Fordyce Barker, who, after satisfying himself as to the nature of the trouble, referred him to Dr. J. H, Douglas for special treatment. The latter gentleman, also recognizing the serious nature of the malady, made the diagnosis of epithelial cancer, and commenced the use of palliative applications with the view of preventing the spread of the ulcerative process, then just commencing in the right posterior faucial pillar. For a time his endeavors were crowned with some success. Coincidently, however, with severe mental strain, occasioned by pecuniary embarrassment and attended with great physical prostration, it was noticed that early in December the disease took a fresh start and spread in upward and downward directions, so that in the course of the two months following, the posterior pillar of the fauces was almost entirely destroyed, the tonsilar space infiltrated, the base of the anterior pillar perforated, and the right side of the base of the tongue indurated and superficially ulcerated. This was the condition of affairs when, on Feb. 19, Drs. Barker and Douglas held a consultation with Drs. T. M. Markoe and H. B. Sands. The diagnosis of epithelioma was then unanimously confirmed, and the judiciously conservative treatment of Drs. Barker and Douglas was fully indorsed.

On March 7, when I first saw the patient, in consultation with Drs. Barker, Douglas, and Sands, it was found that the perforation at the base of the anterior pillar had extended so that its internal edge was converted into a mere bridle of tissue. The entirely soft palate was uniformly reddened and swollen from inflammatory infiltration, and the surfaces of the right tonsilar region and adjoining portion of the vault of the pharynx were covered with a thick, consistent, yellowish exudation resembling sloughing tissue. This deposit was evidently the result of an acute process, engrafted upon the original disease, and partook in its clinical as well as physical features of many of the characteristics of a diptheritic membrane. The enlarged and hardened gland under the angle of the jaw was then freely movable. This view of the complication explains many of the grave symptoms which were subsequently associated with great prostration, but which were not directly traceable to the progress of the epitheliomatous degeneration. Subsequent to this consultation visit an opportunity was offered the staff for examination of the microscopic specimens previously removed from the ulcerated edge of the posterior pillar of the fauces of the patient and prepared by Dr. George R. Elliot. I inspected the specimens in common with Drs. Barker, Douglas, and Sands, and agreed with them in expressing a due appreciation of the significance of the appearances presented. In other words, the microscopic examinations showed the disease to be epithelioma. The appearances are correctly summarized by Dr. Elliot in his recent paper, and are properly judged by Dr. T. E. Satterthwaite. There was, in brief, a more or less lobulated appearance of the epithelial mass, with great diversity in the shape of cell elements—and marked evidences of epithelial proliferation; but, above all, there were present distinct cell nests and a tendency of the new cell formation to burrow into the deeper parts of the underlying tissue. Extravasations of blood were also found in the diseased specimens.

The expediency of a radical surgical operation for the removal of the growth was discussed early in the case. It was considered that such a measure would have involved the division of the lower jaw in front of the ramus, the extirpation of the entire tongue and the greater part of the soft palate, together with the removal of the ulcerated and infiltrated fauces and the indurated glandular structures under the right angle of the lower jaw. This was considered mechanically possible, despite the close proximity and probable involvement of the tissues adjoining the large arteries and veins in the neighborhood of the ulcerations, but in the best interests of the distinguished patient the surgeons did not feel inclined to recommend the procedure. Even by such means there could be no guarantee, in view of extensive surrounding infiltration, that the limits of the disease could be reached without immediate risk to life by the severe shock to a constitution already much enfeebled.

From the time that the exudation appeared in the throat there was noticed for several days a marked depression of the vital power of the patient. Owing partly to the progress of the cancer and partly to the extra-inflammatory condition of the throat there was an increased accumulation of mucous secretion, the expectoration of which was attended with occasional attacks of choking. The latter of themselves had a tendency to exhaust the patient, and on more than one occasion alarmed his family and the public. The most serious attack of the kind occurred about 2 A.M. of March 30. The General for a time lost his composure and believed that he was about to suffocate. His distress was extreme. Dr. Douglas, who was summoned, called for me on his way to the patient. By the prompt syringing of the throat by Dr. Douglas the accumulated mucus was dislodged, when, as usual, immediate relief was obtained. The apprehension of a recurrence of the difficulty was so great on the part of the family that we remained with the General until the afternoon, when another general consultation was held, attended by Drs. Barker, Douglas, Sands, and myself. The patient was found somewhat weaker, but was not considered in a dangerous condition. The area of exudation was increased, as well as the swelling of the palatal curtain, accounting for the extra difficulty of swallowing and thickness of speech which were painfully perceptible. The pulse was inclined to be intermittent, and was decreased in volume, but there was no elevation of temperature. This weakened condition continued despite the administration of heart stimulants (digitalis and coca) and the careful regulation of liquid diet, until the early morning of April 1, when the patient was rather suddenly seized with an attack of fainting, and death from heart failure seemed imminent. Dr. Douglas and myself were with him at the time. The members of the family were around the patient, expecting that every moment would be his last. It was feared that he could not rally, and the farewells were said. Finally, hypodermic injections of brandy were administered, with the gratifying effect of tiding the patient over a threatened collapse. In the course of the next four hours he was considered out of immediate danger, and was able to take his liquid food.

The patient did comparatively well for the next few days, the swelling in the throat gradually diminishing, and the exudation showing a tendency to become separated. On April 7, however, a hemorrhage from the throat occurred about midnight, which ceased spontaneously, after about four ounces of blood had been lost. The occasion for the bleeding was the detachment of a portion of the slough from the right side of the pharynx. No large vessel was implicated. During the twenty-four hours succeeding the hemorrhage the pulse became more feeble, frequent, and intermittent, and the temperature at one time rose to 102° Fahrenheit. In order to relieve pain and procure sleep the patient was kept mildly under the influence of morphine, the latter being injected hypodermically to the amount of six minims every six hours. The morphine was afterward decreased to six minims in the twenty-hours, and but slightly exceeded that, save on one or two occasions, up to the day of his death. The separation of the slough was anxiously awaited, and when it occurred the patient, as was expected, became much relieved of many of his more distressing local symptoms and of his depressed bodily condition. Then it was announced by the press that because the General had rallied the physicians had erred in diagnosing the case, and consequently the patient's chances of recovery were good. Much as this happy result was to be hoped for, the stubborn fact of the existence of the original disease, and its steady progress toward an inevitably fatal issue was painfully apparent to the gentlemen watching the case. The return of the patient's strength was not a surprise to his physicians. It was what they aimed to bring about by the treatment employed. The general exhaustion, which was in a great measure independent of the cancer, was at this time most feared, and the treatment of that condition was naturally of the first importance. But the gratifying change for the better was believed to be simply of a temporary character. Death, directly or indirectly due to the extension of the throat disease, was a question of a few months at most. The surfaces of the throat covered by the inflammatory deposit presented a clean appearance after the deposit was separated, but the primary cancerous ulcerations of the palate and tongue never changed for the better. The original disease was always there, slowly but surely progressing, resisting every treatment, defying every hope for cure, and grimly inviting the inevitable issue.

The temporary rally of the patient's strength was taken advantage of in every possible way to conserve his vital forces and make his last days as comfortable as possible. The success attending these efforts was manifested in many ways. He, however, possessed in a remarkable degree the faculty of repressing his feelings, bearing his pain, and maintaining his mental composure, all of which was calculated to deceive a casual observer as to the real extent of his suffering. In the midst of this, and with a constant reminder of approaching death, he stoically gave himself up to the composition of his life story, anxious only that he should live long enough to finish it. The progress of the local disease was a steady one from the beginning. The ulcerations of the pillars of the fauces extended to the right side of the palatal curtain, almost destroying the latter and eating away the adjoining side of the uvula. The same process spreading to the region at the right side of the base of the tongue, enlarged and deepened the ulcer there, destroyed the soft parts in the neighborhood, and burrowed its way downward beyond the reach of inspection or palpation. Toward the last the extent of the disease could only be estimated by examination with the finger in the throat, and even by that means its limit downward and backward could not be reached. The cavity at that point was irregular and deep, and was surrounded by a hard and ragged margin fading into surrounding indurated infiltration. The enlargement and hardening of the glands under and around the angle of the lower jaw continued to the last, when the superficial and deep structures of that side of the neck and face constituted a mass of cancerous disease solidly connected with the ulcers of the inside of the throat. At no time did the swelling outside threaten to break down into ulceration, but its size varied from time to time as the result of accidental inflammatory deposits. These increases in size were treated by warm applications, which quickly reduced the tumor to its original and fixed dimensions.

The loss of the palate and adjacent soft parts, with the consequent lack of perfect control of the tongue, occasioned great difficulty in swallowing. This was most painfully marked toward the end. His nourishment, which for six months was always in liquid form, was seldom taken without some choking. These paroxysms, however, became quite severe. It was only by his supreme self-control and calm determination to sustain his powers to the end that he was enabled to take his allotted quantity of food. He was compelled toward the last to hurriedly drink the entire contents of the tumbler without taking a breath. At the completion of the swallowing a choking fit would occur, which would result in the regurgitation of the last portion of the food through the mouth and nostrils. The latter difficulty was in a great measure overcome by following the suggestion of Dr. Douglas not to attempt to swallow the last mouthful, and consequently at no time was strangulation threatened. During all his illness the breathing was not mechanically impeded by the extension of the disease into the larynx. Just before he was transferred to Mt. McGregor he rather suddenly lost his voice, never to regain it. This was due partly to thickening of the vocal chords by the inflammatory infiltration and partly to relaxation of the parts from general weakness.

A brief summary of the treatment is all that will be necessary to give now. Early in the disease, in order to eliminate every possible chance of error in diagnosis, the patient was placed under specific treatment, although the clinical history of the case gave only negative indications for its necessity. This treatment, although continued for a sufficient period, produced no effect in healing the ulcerations or in arresting the progress of the disease. Iodoform was used as a local application to the ulcers, as well as gargles composed of salt and water, diluted carbolic acid, solutions of permanganate of potash and yeast. A four per cent. solution of cocaine was occasionally applied to the painful parts with happy results, but it was never employed to any such excess as is generally believed by the public, nor were there any bad effects manifested from its administration at any time. The latter were carefully guarded against with the full knowledge that the drug was a new one, and that only its cautious use was admissible. Red clover was given quite constantly, but produced no effect whatsoever upon the local disease. It only proved itself useful as a laxative, and was so employed as being the least harmful of medicines of its sort for continuous administration.

His food consisted of beef extracts, milk, eggs, and farinaceous materials, always in liquid form. In all detail matters bearing upon his food, such appetite as he would occasionally manifest was the guide for any change. The rule was to deny him nothing he might crave. During the last two days of his life he began to fail very perceptibly. On the evening of July 22 he signified his wish to be transferred to a bed. This was the first time he had left his easy-chair for purposes of rest or sleep since early in March. Dr. Sands and myself, who had been previously summoned at the final consultation, agreed with Dr. Douglass that the end was near, and that nothing more was to be done than to make the patient as comfortable as possible. The General had then lost his ability to swallow, his pulse was 120 per minute and feeble, and his respirations twenty-five per minute and shallow. His consciousness gradually left him at midnight. Continuing to sink, he died without a struggle at 8.08 A.M., Thursday, July 23, 1885. Much to the regret of the entire staff, no autopsy was permitted. The family gave as a reason for the refusal that each member was entirely satisfied with the diagnosis and treatment of the disease.

Thus ended a remarkable case. In commenting upon its features it must be conceded, on behalf of scientific medicine, that everything possible in the present state of our knowledge was done to prolong life and make it as tolerable as the circumstances of the disease would admit. The diagnosis given early in the case was proved to be correct by the microscope, by the clinical history of the patient, and by the fatal issue. Appreciating the usual course of the disease, the staff at no time set any period for death until within the last twenty-four hours, nor did any member of it at any time during the patient's illness give the slightest reason for alarming the public by sensational rumors. As it is, the disease had a much shorter course than usual, owing to the prostration of the patient's system, dependent in a great measure upon other causes.

The cause of the disease in this case is largely conjectural. Epithelioma as a rule starts from local irritation, and, unlike other forms of cancer, is not dependent upon hereditary predisposition to the disease. There must, however, aside from this, be a latent tendency towards cancerous troubles, which is more pronounced in some individuals than in others; otherwise we should be unable to explain why simple and continued irritation would induce the disease in one case and not in another. It is, however, quite probable that the irritation of smoking was the active cause of the cancer in General Grant's case, or at least it is fair to presume that he would not have had the disease if his habit had not been carried to excess. This assumption is made in the face of the fact that, of the thousands who smoke, but a very small proportion suffer from the disease. As far as can be estimated, the cancer commenced only nine months before death. Fortunately the breathing was never affected by the involvement of the parts around the windpipe, nor was there any impediment to swallowing by the extension of the growth to the œsophagus. Both of these conditions might have obtained had the patient lived long enough to give an opportunity for the local disease to gain sufficient headway. The cancer presented an unusual feature in first invading the side of the throat rather than that of the tongue, as the latter is most frequently the original seat of this disease. The appearance in the throat of a sloughing process during the regular progress of the cancer was a circumstance worthy of note, and explained much of the exhaustion of the patient during one of his critical periods. If it had not been for this accidental complication the epithelioma would have taken its usual course and the public would not have mistaken the extension of the inflammatory process for that of the cancer, and would not have been ready to believe that the original disease was disappearing when the sloughy deposit was discharged. The patient at the time was better of the complication but not of the cancer. The latter never changed but for the worse.

The occurrence of hemorrhage from the erosion of the walls of the larger vessels in the neighborhood was believed to be eventually possible, but was at no time seriously feared, as nature had thrown out her safeguards in the shape of dense deposits around the branches of the carotid artery and jugular veins. Although there was more or less constant pain of a gnawing character, the patient was happily spared that agony of suffering which is often associated with the invasion of the deeper parts of the tongue by cancerous disease. Had the latter occurred it was proposed to divide the sensitive nerve of the tongue (gustatory) through the mouth, which operation oftentimes gives absolute relief. Such pain as existed, however, was kept under control by cocaine and morphine, so that the last wish of the patient that his death should be a peaceful one was fully realized.—*N. Y. Med. Record.*

RESUME OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

LITHÆMIA.—The following is the latter part of a paper by Dr. James W. Putnam in the *Buffalo Med. & Surg. Journal:* Lithæmia, or a deposit of lithic acid, may occur in so many different tissues that the recognition of the constitutional poison is necessary for a diagnosis. The liability of the mucous membrane to disease from irritation is too well known for elaboration. It is sufficient, after calling your attention to the fact of a circulating blood supply loaded with a quantity of insoluble lithic acid, to say that many of the symptoms that are hurriedly called dyspeptic, should be called lithæmic. As a rule, we find flatulence, costiveness, and intestinal colic, alternating with diarrhœa. The tongue is coated, and a little dry. If the deposit is also in the muscular system, as it may be, and often is, the symptoms are those of pain, and stiffness, and soreness of the muscles as in rheumatism. If in the skin, the patient may complain of boils, acne, eczema, erythema, or there may be no rash, but intolerable itching; or else the pins and needle sensation, while visions of impending paralysis make him gloomy and despondent. There are other and more alarming symptoms which result from this noxious blood supply. The nerve-sheaths are inflamed and sciatica and other neuralgiæ result. There are other symptoms which simulate those from severe brain and spinal disease. Prominent among these are vertigo, tinnitus aurium, cramps, and muscular twitchings, sleeplessness, and irritability. Dr. Lyman details the following case of a physician in practice twenty-five years, who had occasional attacks of vertigo, accompanied by tinnitus, which was almost constant day and night. He says of him in 1879, eight years after first attack: "A sudden and severe attack occurred one morning, with distressing faintness and prostration. For the ensuing two years, there were but slight attacks of vertigo, but the inability to walk straight became manifest. The staggering could only be overcome by stopping, sitting down, or grasping a tree or fence. " This case is given in detail, by Dr. Lyman, and is worthy of careful reading, as the man recovered by treatment directed to the lithæmic condition. He duplicates this case with others of equal interest, but which I cannot detail. DaCosta reports cases of vertigo, with irregular action of the heart, of headache, with impaired vision, of neuralgia, dyspepsia, gastralgia, pains in joints of fingers and toes, burning sensations of tongue, palms of hands and soles of feet, pain in the coccyx, and localized anæsthesia. Of mental conditions, he says: " There are spells of languor and lassitude which befall the man whose blood is charged with lithic acid, in which all exertion is painful. Then there is depression of spirits and gloom, which amount almost to melancholy. But above all is irritability of temper. Odors annoy, sounds infuriate, nothing pleases. The man is on edge; an acid blood literally makes an acid temper. Indeed, many a man who has the reputation of being a curmudgeon is simply a lithæmic. Of the mental faculties, the memory is the only one which really suffers. It deteriorates rapidly, especially after lithæmic vertigo, but in time, as the lithæmia is kept away by a careful mode of life, it regains most of its original strength."

I have quoted DaCosta so fully, in order to give the strength of his reputation to a statement of my own cases. Case: An Irishman, of heavy build, consulted me in February, 1884, because of sudden dizzy spells which came on him at irregular times. He made no other complaint; otherwise, he felt well. Examination of urine found it acid, sp. gr. 1025, reddish color. Bowels moved about three times a week. Tongue furred and moist. Pulse full and 76. Patient was too ignorant to tell whether or not his food distressed him. The duration of the complaint was about three months. He had been idle since October. This case was instructive to me, and I will give you my reason for making the diagnosis of lithæmia, its cause and history. The strong, active, hard-working, hard-eating laborer suddenly becomes idle, i. e., he suddenly is deprived of his normal exercise. The needs of the system are lessened, but the nutritive supply is not diminished, and the quantity that is thrown to the tissues is greater than receives complete oxidation, owing to the diminished disassimilation. The result is the formation of lithic acid, which is manifested by the highly colored urine, and which is the cause of the vertigo. His food consists in the main of fried meat, including pork and boiled potatoes. I prescribed the following treatment: First, a diminished quantity of food and little meat, and mostly vegetable ; no liquor. Second, regular exercise, whether he was paid for his work or not. Third, Rochelle salts every morning.

The following :

℞	Soda, Bi-Carb.,	10 grs.
	Potass Nit.,	20 grs.
	Sal. Roch.,	30 grs.

in water after meals.

All these the man faithfully carried out, as he was thoroughly frightened. After four weeks he had no further vertigo. He kept up the alkaline powder, and increased the food. Six months after, he called to tell me that he had no return of the fits. This case was a very valuable one, as it was one which, six months before, I should have diagnosed, perhaps, as epilepsy, of *petit mal* variety. Another case, similar to this one, I saw with Dr. Burwell.

* * * * * * *

J. D., aged seventy, I saw through the courtesy of Dr. LeLancey Rochester. Patient gave a history of several previous attacks of rheumatism. At present he complained of headache, dizziness, sharp pains through chest, back, and legs, flatulence and costiveness. Examinatian of urine shows it to be strongly acid, one and a half pints in twenty-four hours, and great deposit of urates. He being still under treatment, it is too early to give the result. Cases of urticaria I have taken the liberty to class under the head of acute lithæmia. In dispensary patients I have found cases of intercostal neuralgia, and various ill-defined pains, on careful questioning, to depend on a lithæmic state of the system. Their frying-pans are the cause of many of their ills. By teaching them what to cook, and how not to cook, they soon improve. The pathology and etiology being accepted, the treatment should be directed to the removal of the cause. If it be to a diminished supply of oxygen, and your patient is living in close rooms, increase the supply of air if possible. Advise exercise, that respiration may go on more rapidly, and that thus the blood may be oxygenated more thoroughly. If the patient be one whose errors in diet are manifest, restrict him. Let his food be simple. Prohibit meat and fats, pastry, and rich gravies, all fried food and sugars ; add to this brisk exercise and skin friction, and your patient has begun to live right. As medicine, I have been in the habit of giving five grains of blue pill every night for six nights. Hunyadi Janos water in the morning and the alkaline powder after meals. In the course of two weeks, if the case is not of very long duration, your patient, as a rule, is well enough to be trusted to take care of himself, with the admonition to eat sparingly and keep the bowels free by rigid attention to diet, exercise, and occasional use of the natural mineral waters. A short résumé will close the paper. An excess of lithic acid and the lithates in the urine is accounted for by two different theories.

1st. That it represents an arrest of tissue waste at the time it is uric acid before it becomes urea.

2d. That it is the result of the arrest of assimilation of peptones because of an excess of albuminous food over the supply of oxygen.

Whichever theory we accept, we know the original cause is an improper diet and lack of exercise, with hereditary tendency as a predisposing element. We know that the insoluble lithic acid poison may, by acting as an irritant, affect any tissue, and give rise to numerous symptoms, notably those of pain and soreness in the muscular system, itching, perverted sensation, and rash, when the skin is affected; the various neuralgiæ by irritation of nerve trunks. There are also the gastro-intestinal symptoms, as costiveness or diarrhœa, flatulence, intestinal colic and dyspepsia, cerebral symptoms of cephalalgia, vertigo, tinnitus aurium, irritability, and loss of memory; spinal symptoms of cramps, muscular twitching, and unsteady gait.

The treatment is simple and satisfactory, consisting of a diet of fish, vegetables, and fruit, avoiding all fried food, fats, sugars, and malt liquors, and always eating a moderate quantity at any meal; a regular and vigorous exercise; airy bedrooms. As for medication, it comes last, as being least important; it consists in regulating the bowels by mineral water, and the taking of alkalies, as soda, potash, and lithia.

THE TREATMENT OF CHOLERA INFANTUM.—In the *Archives for Pediatrics* for August, 1885, Dr. Wm. Perry Watson gives his views on the treatment of cholera infantum as follows: It will be advantageous to consider the treatment of cholera infantum under three headings, viz.: 1. Hygienic or prophylactic. 2. Dietetic. 3. Medicinal.

1. *Hygienic or prophylactic.*—The infant should be removed from the influence of all the predisposing causes previously mentioned; when possible it should be kept in the country or by the seashore during the heated term; should it be impossible to keep it there all the time, it should be taken on frequent excursions on the water and into the country. See to it that the living room is kept clean, well-ventilated, and so that plenty of sunlight can enter it, if possible; keep the infant out of draughts, especially at night. Give it a tepid bath containing a little fine salt night and morning, followed by gentle friction all over the body. Don't let it sleep in any of its day clothes, but when they are removed at night have them hung up by the window so that they will be thoroughly aired in the morning. Flannel should be worn next to the skin, especially at night. Don't let it sleep on feathers; a hair or straw mattress, especially for the head, with an even, smooth surface, should be used. Keep the head cool and the extremities warm. Avoid excitement, fright, and continuous noises. If it is restless during the day, keep it out in the fresh air, which is the best as well as the most natural sedative. If restless at night, with cool extremities, especially the feet, and a hot head, equalize the circulation by a hot mustard foot-bath. If the feet are usually cool it will be advis-

able to constantly keep woolen stockings on them. Perfect cleanliness of body and linen should be scrupulously attended to.

2. *Dietetic*—Infant feeding is one of the most important as well as the most intricate of problems we have to deal with in the managament of young children. Time and space will not admit of extended details here. You will frequently be called to prescribe for young children for whom your best and only prescription will be the regulation of the diet. No food has ever been made that will agree with all children. Some do well on one, some on another; so that you must find a suitable food for each case. Simplicity in the preparation of any food is of special importance. There need be no question but that the mother's milk, under all ordinary circumstances, is *the* food for that infant, and in case where that is not obtainable, a wet-nurse will be next in value. Next to human milk, cow's milk is most available and easily prepared. The various forms of preparing it need not be mentioned here. At the present time the peptonized form seems most easily assimilated, though considerable care is necessary in its preparation, and difficulty in keeping it sweet during the hot weather might easily prevail. One important point in the management of these cases should never be lost sight of—i. e., not to overload the stomach. If the infant has sickened while using some one of the prepared foods, it would be advisable to try some preparation of milk, providing human milk were not obtainable.

During the height of the disease it will be proper to keep all milk away from the infant, unless it is at the breast. Ripley teaches that high temperature produces such changes in the gastric juice as to destroy its digestive properties. Kumyss in small and frequently repeated doses will often allay the thirst, arrest the vomiting, and improve the character of the stools. Brush's is the best; when it is lumpy it should not be used. Gum water (ʒj, gum acaciæ in ℥iv water), flavored with a little lemon or orange juice, given with an equal part of carbonic acid water, will frequently be retained. The white of an egg beaten up in a cup of barley water and given in dram-doses will act favorably in preference to anything else in many cases. Frozen beef-tea has also been recommended. White-wine whey, diluted, will frequently be retained and will be nourishing. It may be given in dram-doses every hour or even half hour. The uncontrollable thirst due to the profuse serous flux causing an inspissated condition of the blood should be relieved either by some of the preparations mentioned above, by the sucking of ice tied up in a soft piece of muslin, or even by small and oft-repeated doses of ice-water. An enema of lukewarm water, about a gill at a time, frequently seems of benefit in relieving this distressing symptom. It will be advantageous to add about one-quarter of a teaspoonful of fine salt to each enema, which can be repeated hourly. Oatmeal water, a cupful to a quart of cold water, allowed to stand for three or four hours, and then filtered and flavored with orange juice, in teaspoonful doses, sometimes will be retained, and will change the character and frequency of the stools. Suggestions will arise in each case which can be used to advantage.

3. *Medicinal.*—That the therapeutics of cholera infantum have been eminently unsatisfactory is but too evident from the variety of remedies used and suggested. Vogel, questioning the absorption of medicine in the stomach or intestines, in these cases, on account of the strong exosmotic current which, takes place toward their mucous membrane, advises medication through the vagina, urethra, and bladder. The indications are, to control the vomiting, check the diarrhœa, reduce the high temperature, and sustain the strength of the infant. It is not desirable to give cathartics at any time. The use of the various preparations of opium is always attended with more or less danger. Some authors, however, commence the treatment with a full dose of opium, and then gradually decrease the quantity. It may, to a certain extent, control the spasmodic intestinal contraction, and perhaps in some measure allay the nervous irritability. If used in any stage of the disease, it should never be given by the stomach, but either hypodermically or in an enema. Thus, in the stage of evacuation, two to five drops of laudanum in a gill of warm water may be used every two or three hours, or, as is very highly recommended by Eustace Smith, one thirtieth of a grain of morphia in five drops of ether may be used hypodermically and repeated in an hour if necessary. He relates one case where a child on the verge of collapse was treated in this way and recovered. As a rule, all preparations of opium should be withheld when the pupils become contracted and symptoms of coma are apparent.

A poultice of one part of mustard to three parts of flour, made into a thin paste with hot water, placed over the dorso-lumbar spine, will frequently relieve the excessive vomiting and retching. Ripley speaks very highly of the use of chloroform, two to ten drops, according to the age, in an emulsion of acaciæ, frequently repeated. He also uses it hypodermically when not retained on the stomach. Small doses of creosote, chloroform, and iodine in camphor water, repeated every half hour, or oftener if the first few doses are rejected, will often stop the vomiting.

℞—Creosoti, gtt. 1–6.
Tinct. iodini, gtt. ½.
Sp. chloroform, gtt. ij.
Aq. camphoræ, ʒj.

The iodine may also be used with bismuth and lime water, or chalk mixture. Small doses of carbolic acid in similar vehicles are recommended. Two drops of aromatic sulphuric acid with five drops of a solution (U. S. P.) of morphine is very well spoken of by Meigs and Pepper. Salicin, salicylate of lime and bismuth, in three to five grain doses, have been recommended; also hypodermics of quinine and morphine. Dr. Boardman Reed, of Atlantic City, speaks very highly of minute doses of corrosive sublimate in these cases. Calomel in one-twelfth grain doses, frequently repeated, has also been successfully used. Belladonna has also been successfully used. Theoretically, there are some indications for its use, i. e., the peripheral anæmia with engorgement of the vascular system of the gastro-intestinal canal. A combination of morphia and atropia, 1–30 grain of the former with 1–1200 grain of the latter, used hypodermically, would be beneficial. A spiced poultice, made of two drams each of powdered ginger, cloves, and cinnamon, with an ounce of cornmeal, and moistened with whiskey or brandy, placed on the epigastric and umbilical regions, and covered with oiled silk, seems to relieve the gastro-intestinal distress.

During this stage, and especially in the stage of collapse, perfect rest in the horizontal position on a hair or straw mattress, with firm support for the head on a level slightly above the body, should be insisted upon in all cases, whether mild or severe. When the stomach will retain some one of the astringents, their use might be advisable to check the persisting diarrhœa. Don't give too much medicine. There is more harm done in giving too much medicine than in not giving enough. The temperature can be kept at any desired point by the use of the rubber coil. The most convenient form is that in the "Fever Cot for Infants," described by me in the *Archives of Pediatrics*, Vol. I, No. 12, December, 1884. I am now having made a rubber cot with spiral springs, which will be more comfortable for the little patient to lie upon, and will be equally effectual in controlling the temperature.

In spite of careful, judicious treatment, collapse may follow. Here the primary indication is to sustain the strength of the infant until reaction—and too much cannot be said against meddlesome interference. Though the vomiting has ceased, and especially if there is beginning coma, yet very little is absorbed by the stomach. The infant should not be moved, except in changing the napkins, even to give it a mustard bath, as recommended by some. Bottles of hot water should surround the flannels with which the extremities are wrapped up. Three or four thicknesses of flannel, wrung out of equal parts of hot whiskey and water, should be laid over the precordium and covered with oiled silk; or a hot mustard poultice may be placed there for a few minutes. A poultice of mustard and flour, one part of the former to two of the latter, should be placed over the nape of the neck. An enema of a gill of hot water with ten drops of brandy, or two to five grains of caffein, may be given every hour. With returning consciousness small quantities of white wine whey alone, or mixed with two or three parts of a decoction of arrowroot (ʒi. to oj.), may be retained and absorbed. As the infant improves the diet can be gradually increased, care being taken, however, not to produce over-reaction. If it will, let it take plenty of fluid, so as to relieve as rapidly as possible the overloaded kidneys. As soon as it is able to be moved it should be taken to the seashore or country, where its convalescence will be very rapid.

THE CURE OF SPINA BIFIDA. In a paper on this subject in the *Detroit Lancet*, in which two cases are reported, Dr. V. P. Gibney says:

Considering the anatomy of spina bifida, it would seem that excision of the sac is limited to a comparatively small number. Mr. R. W. Parker, as a member of a committee to investigate this subject, states (*Medical Times and Gazette*, April 4, 1885, p. 458) that in over one hundred specimens examined in the musuem of the London hospitals, ninety-five per cent. contained some part of the cord within the sac. In an exceedingly well prepared lecture recently delivered in the University of Cambridge, by Professor Humphrey, on "The Anatomy of Spina Bifida" (*Lancet*, March 28, 1885), it is pretty well demonstrated that in a large percentage of the cases, not only the cord, but the spinal nerves are contained in the wall of the sac. The tumor is formed in the anterior sub-arachnoid space, and crowds backward cord, posterior sub-arachnoid space, posterior arachnoid space, dura, and integument, all of which tissues become flattened together, thus making up the posterior wall of the sac. Anteriorly we have only the dura, anterior arachnoid space, arachnoid. In his first case the child was found to have chronic hydrocephalus, and it finally succumbed to this disease. The second case he gives as follows:

A female child, three weeks of age, was brought to me for the treatment of a spina bifida in the sacral region, April 4, 1884. The child was well developed and otherwise free from deformity. The tumor was sessile, was about the size of a small tomato, was smooth, and was covered with a reddish-blue membrane. Near the apex of the tumor, and to the left side, was a crescentic strip of granulation tissue, from which oozed a little serum. I treated the tumor by compress for a week of two, but on the 19th I aspirated, removing about a drachm and a half of clear serum. Aspirated again on the 25th, removing this time only about a half drachm of serum. On May 1, with the assistance of my friend, Dr. L. Emmett Holt, I withdrew two ounces of serum by means of the aspirator, and injected with a hypodermic syringe a half drachm of the following solution: ℞. Iodine resub., gr. x.; potass. iodid, ʒ ss.; glycerinum, ℥ i. The operation was done with the child in the dorsal decubitus, the punctum sealed with collodion and cotton; a smooth compress applied, and the child was kept in this position for forty-eight hours. Not an untoward symptom followed. By May 10 the tumor was one-half its original size, the parts were denser, and no translucency existed. By the 29th the cure was complete; the child was growing stronger, and the case was dismissed. At my request the mother brought the child to me occasionally for observation. It passed through the summer without sickness, and at my last observation, September 27, there was only a hard flattened cicatricial mass where the former tumor had existed. On the 30th the child died of cholera infantum of three days standing, and I did not secure an autopsy.

Dr. Gibney concludes the paper as follows:

One would think that the injection of the sac would be dangerous, and indeed speedy death has in some instances followed the injections. Remembering, however, the anatomy of spina bifida, as Professor Humphrey has so well demonstrated in the lecture above mentioned, it is easily seen how harmless the fluid may be. He states when speaking of this treatment, "You will perceive that the separateness of the cavity of the sac from the cavity of the arachnoid, in most instances, is some security against the direct passage of the injected fluid into the latter cavity, and that the advantage of Morton's fluid, as an injection, probably depends upon the addition of glycerine to the iodine and iodide of potassium, lessening the liability to the diffusion of those irritating substances through the delicate lining of the sac into the surrounding subarachnoid tissue." In this day of antisepsis the surgeon finds it extremely difficult to resist the temptation to do a cutting operation—an excision even. Yet in view of the anatomy of spina bifida, the plan advocated by Mr. Morton, of Glasgow, seems to be altogether the safer and the more scientific. With good surgical jugdment to guide one, and a knowledge of the parts implicated, the vast majority of cases of spina bifida ought to be amenable to treatment.

LECTURES.

Clinical Lecture on Recent Advances in Abdominal Surgery.

Delivered before the pupils of the Medical Department of the Yorkshire College on March 4, 1885. By C. G. Wheelhouse, F. R. C. S., Consulting Surgeon to the General Infirmary, Leeds.

Gentlemen.—I have recently come across an ancient proverb, which runs thus: "We only count our days; we ought to weigh them;" and if there was ever a time when such an aphorism could be truthfully quoted, and when the value of work done was of far greater importance than the time occupied in the doing of it, that time, at any rate so far as the profession of surgery is concerned, is the present. When, responding to the request of the authorities of the Yorkshire College that, in conjunction with my colleagues, I should from time to time undertake to deliver a few surgical clinical lectures, I promised to do so, the subject of the advances that have been made in abdominal surgery in recent times very naturally suggested itself to my mind as one in which I might find something to say that would prove both interesting and instructive to you, and so I selected it as one of my proposed subjects; but, when I bring myself to book, and to consider the careful arrangement of what I should like to say, I find it so impossible to compress the matter into the compass of a single lecture that I am compelled to ask you to accept this one of to-day as an installment only, and to promise—should we be spared to meet again another year—to renew the subject, and complete it on a future occasion.

There was a time—and it is well within my recollection—when the entire domain of the peritoneum, and of every organ contained within its folds, was held to be ground sacred to the physician, and on which, except in cases of unavoidable necessity, the surgeon was forbidden to intrude. A few operations, and only few, were supposed to be admissible; and even in these, so great was the fear of peritonitis and its results, that even they were undertaken with all the dread which the presence of the greatest surgical danger could inspire. Moreover, the very few that were considered to be permissible, and permissible only because compulsory, were done in a manner which, in the present day, we should regard as rough and uncouth, and as savoring but little of scientific surgery. Thus, from all time, it has been occasionally necessary to relieve an abdomen distended with fluid by paracentesis; but the paracentesis of that day was as unlike the operation as now performed as it was well possible to be; and it is no wonder that a proceeding even as simple as that was considered to be, should have been regarded as attended by considerable risk. Deferred to the last possible moment, until not only the abdominal walls were stretched to almost unendurable tension, and the diaphragm, from similar pressure, was almost disabled, we cannot wonder that fatal syncope was dreaded, or that it should sometimes occur.

The varying character of the fluid, and the varying amount of it which resulted from these operations, could not fail to strike even the least observant operators; and while in some such operations it was noted as being clear, transparent, and largely abundant, in others it was seen to be so thick and glutinous that it failed to run freely, even through cannulæ so large as those at that time in use; and even Sir Astley Cooper has placed one case of "dry tapping" which occurred to himself on record. It can hardly, then, be wondered at that facts such as these should lead men of observation to seek for the true pathological explanation of such differences as these. In the cases of men, it was noted that the fluid was almost invariably abundant and thin, and it was only in female cases that the difficulties of withdrawal from unusual thickness or tenacity were observed. Post-mortem examinations gradually revealed the cause of these differences, and demonstrated that, while in males the ascites was almost, if not actually, always general, in women it was most frequently encysted, and, in a majority of cases, confined to diseased conditions—not of the peritoneum, but of the ovaries or certain of their appendages.

Then there slowly dawned upon the minds of men the possibility of more perfect differentiation in their cases, and, before many years were passed, it was known that such diagnosis could be made with tolerable clearness and accuracy. Then the greater and more vital question began to be asked Could encysted dropsy be more effectually dealt with than by simple tapping and evacuation? At this point, and ranging itself around this question, there arose a great crisis in surgical science; and though to you, who almost every day of your lives see operations performed such as even in my early days were not as much as thought of, to those of us who are able to remember it, this crisis was intensely interesting and exciting. Reared and educated in the ancient belief of the sacredness of the peritoneum, we heard of, and we listened, almost with bated breath, to the recital of cases in which the abdomen had been opened and such tumors had been emptied and removed, and we wondered at the recklessness of those by whom such things had been done. It might well happen, it was argued, that here and there a solitary case might struggle through and might in the end recover; but could such recoveries ever be looked upon as likely to become general? As a fact, only few such cases did ever struggle through, and what reasonable prospect was there that such recoveries could ever become numerous?

We had seen heroism under human suffering carried, as it was thought, to the highest pitch of endurance; and the question was asked, shall I say querulously, Is it possible that the abdomen can be laid open, its contents handled and examined, the peritoneum be freely explored, and that the subjects of such barbarities should yet live? By the majority such possibility was denied, and by men of the very highest rank in the surgical world such operations were condemned and were pronounced unjustifiable; by some such it was even declared that the man who dared to undertake them was a murderer! Nevertheless such things were done, and were now and then successfully done, and surgery was not found wanting in its heroes, who were ready to do and to dare all in its cause.

England cannot lay claim to the origination of the operation of ovariotomy; for this, the greatest boon that our profession has ever given to the world, and the gift by which the greatest number of useful lives has been saved, was the gift of an American country practitioner, who undertook it in the simple performance of his daily routine, and who thought so little of his achievement that for a long time the world knew nothing of it. The idea of this performance was suggested to his mind while in England. And if you desire to read an account of him and of his discovery, you will find it given by Sir Spencer Wells in his treatise on "Ovarian Diseases," and may learn how it was suggested by the eloquence of his teacher, John Bell. It is said of him by his biographer (Dr. Gross) "that he was enraptured by the eloquence of his teacher, and the lessons which he imbibed were not lost upon him after his return to his native country. Bell is said to have dwelt with peculiar force and pathos upon the hopeless character of ovarian tumors when left alone, and on the practicability of removing them by operation." ("Diseases of the Ovaries," by T. Spencer Wells, p. 294.) So the seed sown in those eloquent lectures of so long ago as 1794 has grown into the strong and vigorous tree of the ovariotomy of to-day. Naturally, in its earlier years, it was but a tiny and slow-growing plant; and, if it had not been for other most happy discoveries, the chiefest of which was the discovery of anæsthetics, it might not even yet have attained its present noble proportions. By anæsthesia it has been robbed, not only of its first and greatest horror, the ordeal of the operation itself, and also of much of the nervous shock inseparable from the performance of such an operation, but from many of the dangers inherent in it also, and only to be safely overcome by an expenditure of time which, without the aid of insensibility, could not be endured.

Pleasant as it would be, and instructive too, if time were not an object, to linger over the contemplation of these early days of progress in abdominal surgery, I must not let the temptation overcome me; but simply pointing out to you that it is to the patient, persevering, and indomitable courage of such men as Dr. Clay, of Manchester, Sir Spencer Wells, of London, and

Dr. Keith, of Edinburgh, that we owe the great lesson first taught and demonstrated by the practice of ovariotomy, and which it is my object in this lecture to impress upon you—that with reasonable care, prudence, gentleness, and patience, operations involving even the dreaded peritoneum may be safely undertaken and carried to a successful issue. Look for a moment or two at the proof of this assertion, and let me imagine that you put to me these broad questions: To what do you attribute the exceeding difference in the results of the ovariotomies of early, as compared with those of later days? Is all due simply to increased gentleness, cleanliness, and care? No; certainly not. Much, very much, has come of accumulated experience, and much has, also, to be set down to the effects of another of the great discoveries of the age, the discovery of antisepticism in surgery. In the earlier days of this great advance, as I have said, a few, and only a few, cases struggled through to a successful issue; but, year by year, the successes became more numerous and the deaths fewer, until to-day I am able to point to such a table as this which I hold in my hand, which exhibits the results of the operations performed by Dr. Keith in the Royal Infirmary at Edinburgh during three years, in which, of seventy-nine operations, only five have resulted in failure.

It is very reasonable that you should seek to ascertain how such wonderful results have been brought about, and how an operation, pronounced in its earlier days to be "unjustifiable," should have been brought to such pre-eminent perfection. Unquestionably some part of the success may be attributed to the care exercised in the selection of the cases to be submitted to operation; but, I venture to assert, not nearly so much as is generally supposed. Cases which in the early days would, without hesitation, have been put aside as unfit for surgical interference, are now successfully operated on almost every day. "Adhesions," for instance, or the fear of adhesions, between the tumor and its surroundings, were formerly ranked among the evils most of all to be dreaded. Now they are thought comparatively little of, and, when they are found to exist are, for the most part, overcome without very great difficulty. I remember being present, somewhere about 1846 or 1847, at a consultation in which the supposed existence of adhesions was held, by the then most celebrated operator of the day, Dr. Clay, of Manchester, to be a fatal objection to an operation, and in which, when death occurred some months afterwards, no trace of an adhesion was to be found. And I have myself operated in this hospital, not a very long time ago, upon a case in which the tumor was so closely adherent to everything around it, that it took an inordinate length of time to dissect carefully through all the adhesions and to liberate it from the pelvis, and which, nevertheless, recovered. In former years this case would certainly have died, even if it had been completed, because the effect of care in the separation of adhesions, and in the minute tying of all bleeding points, was not sufficiently appreciated or relied upon, and the after-decomposition of the blood effused and allowed to remain in the pelvis was not sufficiently considered. Now this is one of the points which I put down as a combination of care with the antiseptic principle; for by the antiseptic principle I do not mean just the use of the Listerian spray and cleanliness of instruments, but that, combined with the knowledge that if decomposable matter be left in the body, whether in the form of blood or of serum, or of any extraneous animal fluid, it may, by putrescence, become the most powerful factor of danger, and may be sufficient to outweigh all other care that may have been expended upon the case. This, without doubt, in my mind at least, was the common cause of a great many of the early deaths; and what should have been regarded as septicæmia was put down to the liability of the peritoneum to inflammation.

Another way, also, in which this liability to septic poisoning was incurred arose from the method adopted in the treatment of the pedicle. This, indeed, for many years seemed to be the crucial point around which all our difficulties clustered, and how best to deal with the pedicle was the great question of the day. At first we were in the habit of fixing it with a stout hare-lip pin in the wound, between the walls of the abdominal incision, and our cases generally did well for the first few days; but no one who has not passed through the experience can appreciate the dread with which we used to anticipate the withdrawal of that pin, and the fall of the stump of the pedicle into the pelvis. That was almost invariably the signal for commencing danger, and it was dreaded accordingly. That it was to be attributed to the mere presence of the stump itself in the peritoneum cannot be maintained, though at the time we used to think so; for we now always drop the stump in from the beginning, and rarely have reason to attribute any evil to our doing so. No; we kept the stump out until it became septic, and then, when it fell into the pelvis, it lighted up further mischief, which only too often ended in fatal consequences. Next followed the clamp in a great variety of forms, and this, by keeping the pedicle so fixed in the wound that it became adherent to it and did not slip into the interior, gave better, but by no means perfect results; and thus, little by little, the study of the treatment of the pedicle and of the doctrine of septic poisoning together, led us to a truer appreciation of the real danger that lay in our path, and to the exercise of the infinitesimal care which you now see taken in every case, to leave the peritoneum free from all possibility of avoidable, and especially of septic mischief, when we close the wound. Another method of dealing with the pedicle, which was extensively followed at one time, and which is even yet, apparently, in favor with Dr. Keith, of Edinburgh, was its treatment by the cautery. In following this method the pedicle is seized by a clamp, and, when firmly secured, the tumor is separated by dividing it very slowly with the actual cautery. The whole of the divided surface is then carefully seared, and if, when it is released from the clamp, it show no bleeding point, it is dropped into the pelvis and no more is seen of it; if oozing points be seen, they are to be secured before the seared end is lost sight of. The object of this method of treatment was and is clearly twofold, the first aim being to get safely rid of it from the first, before it has had time to become septic; and the second, to do so without the use of extraneous material in the form of ligatures around it, which must be dropped with it into the body. This, again, had for many months been a fertile source of danger with us; and, when I remember the amount of whipcord, China silk, and other absorbent material with which it was considered necessary to tie it, I really wonder that any case was able to recover. Then, though the cautery stood us in good stead for a long time, it, in its turn, failed us in a few cases, and by post-mortem examination we learned that death had been caused by secondary hemorrhage from the stump. Hence we were driven back upon the ligature in some form, and so far, for many years, we have depended upon a single thickness of silk strong enough to bear a sufficient strain, and thoroughly carbolized beforehand. With this I feel that I have reached the acme of safety at present known with regard to the treatment of the pedicle; and when, in removing such a tumor, I have thus secured it, I drop it, with faith, into its resting-place, and I cannot recall to mind a single case in which I think I can fairly attribute a subsequent death to its presence there. Perfectly aseptic to begin with, it does no poisonous harm; embedded, as it very soon becomes, in effused lymph, it does no mechanical mischief; and the ligature, being itself an animal substance, is presently entirely removed by absorption, and ultimately no trace of it can be found.

Another very fertile source of danger has been found to lurk in the use of sponges, concerning the purity of which it has been possible to entertain a doubt ; and I mention this only to justify me in reiterating my belief that a fatal issue, when it arose, more frequently did so from septic than from inflammatory influences ; or was, at any rate, more likely to have been initiated by septic than by inflammatory causes. For many years I have made it, when it has been possible to do so, an inflexible rule never to use a sponge twice over for any surgical operation ; and the rule which I apply to my sponges I also apply, as far as I can possibly do so, to all my instruments, feeling with regard to them that the least failure in the most scrupulous cleanliness may suffice to outweigh all the care I may otherwise exercise in the performance of any operation. Such instruments as I cannot have new for every operation I have freshly cleansed by my cutler, and as perfectly carbolized as possible ; and such as I can renew for each operation I do, and especially those most unsafe ones, my needles. Picture to yourselves the mortification of seeing an ovarian operation, perfectly performed, uncomplicated by any untoward occurrence, and in every particular promising success, but brought suddenly to grief by suppuration commencing in your stitch-holes, and spreading from them to the interior of the wound. This has happened to myself, and I feel confident that I have seen it happen in the practice of others ; and I now, therefore, make it an invariable rule, in any case in which I desire union "by first intention," never to use a needle which has been used before. Its cleansing, with the very best intention in the world, may nevertheless have been imperfect. Now all this is what I mean when I speak of "antiseptic surgery." Some surgeons there are who profess not to believe in the value of antiseptics, and who hold that, by strict cleanliness, all the advantages claimed for antiseptics may be secured. This very cleanliness itself is one form of antisepsis, and, when aided by a thorough use of germicides, such as you see practiced in this hospital, will go far towards ensuring success, which I venture to assert is unattainable without them.

In making this review of ovarian surgery, I have been guided by my desire to make clear, in the first place, my argument that, provided due care be exercised, there is no more special danger in attacking diseases which necessitate the exposure and opening of the peritoneum than of any other of the more delicate structures of the body; and secondly, that it follows, as a consequence of this knowledge, that many diseases formerly deemed wholly beyond the power of surgery are now almost daily successfully dealt with by the surgeon. Thus, the ovaries are not unfrequently removed for diseases other than ovarian dropsy. These organs are, unfortunately, liable to many other conditions which, if not equally burdensome and unsightly, are even more painful and exhausting, and which, by general consent of surgical opinion, call equally for their removal. They may be so afflicted with neuralgia as to render life wholly unendurable. Atrophy, indurations, tubercular and malignant degenerations and adhesions may, in another way, induce such conditions as may render their removal the only price at which ordinary comfort and freedom from pain can be purchased, or by which otherwise uncontrollable hemorrhage from the uterus can be commanded; and thus it may become a simple duty to remove them—a duty from which no conscientious surgeon of the present day will shrink.

In dealing with these organs, and with the uterus, we have the comfort of knowing that they are organs not essential nor even necessary to life. They perform no functions the loss of which endangers the stability of the future health of the patient; and their loss, supposing their removal to be recovered from, is a loss not necessarily grievously felt by the patient, either at the cost of future suffering or even discomfort. And of the uterus itself the same may be said; and, as a natural consequence of our increasing boldness in dealing with the peritoneum, many uterine operations, and even the entire removal of that organ also, are now considered well within the range of available and justifiable surgery.

Uterine fibromata are now—I ought not as yet to say often, but, at any rate, occasionally—exposed by abdominal section, shelled out from their bed in the uterine walls, and the cavities from which they have been displaced so closed as to render recovery not only possible but highly probable; and, unless I am mistaken, you have within very recent times had an opportunity to see such an operation performed and brought to a successful issue. Even cancer of the uterus, that terrible scourge of feminine nature, hitherto so intractable and so universally fatal, is to some extent, in these days, amenable to the knife of the surgeon, and will probably, as passing years enlarge the surgeon's knowledge, come more and more under his control. As yet, the operations for the removal of the uterus and its appendages *en masse* have not been what can be called numerous; but such as have been performed have been attended by a reasonable amount of success; and, as it has been with ovariotomy, so, I doubt not, it will be with hysterectomy; that increasing knowledge, increasing appliances, and increasing surgical experience and skill, will bring the operation, in coming years, into greater acceptability, and to greater and more successful perfection.

Thus it may safely be asserted that the victory which has been won by the patient, the enduring, the unquenchable courage of the ovariotomists, has spread over territory to which even they, in the early days of the struggle, never looked ; has brought the whole domain of the interior of the pelvis under their sway, and has enabled the surgeon to extend his operations also into unexpected regions. Let me illustrate this by a few words on the subject of the operation of gastrostomy. Even to such of you as have only commenced the study of surgery in very recent years, this operation has come as a novelty, and yet it is one which has become quickly and firmly established. I know no form of lingering agony which can be greater in intensity than that slow process of starvation which follows, not unfrequently, upon malignant diseases of the tongue, pharynx, œsophagus, or cardic orifice of the stomach ; and yet, until within times so recent that almost the youngest of you can remember them, we have been powerless to help such unfortunate sufferers, or to assuage the consuming hunger and thirst by which life is made ceaseless torture to them. Since, however, we have gained more confidence in attacking the peritoneum, we have learned that an artificial opening may be made into the stomach without any very serious risk ; and that, through such an opening, food already peptonized, and otherwise so far chemically disintegrated as to be ready for admixture with the duodenal secretions, and for subsequent absorption, may be introduced, so that actual death by starvation may, in such cases, be averted. It is not within my province in these lectures to attempt to describe to you how the various operations to which I point your attention are performed—that is the province of your systematic teachers ; my object is to indicate the principles upon which new operations have been founded and introduced, and, in a very humble but judicial spirit, to endeavor to place before your minds the views concerning them which have become settled convictions in my own. Upon this subject of gastrostomy, I entertain no doubt, and I have as little that, when its full benefits come to be appreciated as they deserve, it will be much more frequently resorted to than it has been, and that, instead of there being only one Alexis St. Martin in the world, fistulous openings into the stomach will have become so numerous that they will cease to present features even of novelty ; and that patients, otherwise condemned to a most painful and lingering death, by the mechanical obstruction to the ingestion of food *per vias naturales*, may yet be enabled to lay down their lives amidst something like serenity and peace.

With a view to effect the same purpose, other novel proceedings have, of late, been proposed, and occasionally carried into practice. Thus, on the same principle that other sphincters, the sphincter ani, the neck of the bladder, the orbicularis palpebrarum, when affected by spasm, by hypertrophy, or both, provided the disease be non-malignant, have been treated by forcible stretching or by division, to set them at rest, so the pyloric sphincter has been also treated. Professor Loreta, of Bologna, does not hesitate in such cases, to incise the stomach, and, introducing his fingers into the pyloric or cardiac orifice, as the case may be, forcibly to dilate it ; and he reports some half-dozen cases successfully treated in this way. I have never performed this operation myself, nor have I seen it performed, but I can accept it as correct in principle ; and, in any very grave case of dilatation of the stomach which failed to yield to the siphon-tube, I would either perform it or sanction its performance with full hope of success.

Emboldened by these advances, and led in the attempt by the great Austrian surgeon Billroth, attempts have, of late years, been made to deal with malignant disease in portions of the stomach itself, and the complete excision of its pyloric extremity has been several times attempted. That such an operation is mechanically possible has been abundantly proved ; and, if the art of surgery were the only or even the chief aim to be held in view in our study of its principles, we should not be long before we saw it exalted far above its present position. From time immemorial, the dexterity of surgical manipulation has been the admiration of the world ; and, if surgery depended on such skill as the most perfect education of the hand and of the eye could confer, it would long ago have reached its acme ; but invaluable as the art of surgery may be, it is to its science that we must ever look as its crowning glory ; and, unless an operation have something to recommend it beyond the mere possibility of its mechanical performance, I do not think it is likely to stand the tests of time and of extended repetitions. Judged by this standard, let us look at this operation of excision of the pylorus. That it is mechanically possible has been proved beyond question. Only a few weeks ago, while I was traveling with Mr. Jessop, he told me he was about to perform this operation ; and, in a few days afterwards, that he had done so. I was not fortunate enough to see the operation ; but, doubtless, many of you were ; and so recent an advance in surgery is it that I do not for a moment hesitate to tell you that I have never seen it done. But talking afterwards with Mr. Jessop of this case, he told me the lessons he had learned by its performance. It proved a very long and tedious proceeding, and it required infinite patience. The process of stitching together the divided segments of the alimentary canal, had been almost less difficult than he had anticipated, and more one of time than of anything else. The number of stitches required had been very great, but, in the end, the junction effected had been so perfect that, had the patient lived, he should have had no fear whatever of leakage. Unfortunately, the patient died ; and at the *post mortem* examination which followed, Mr. Jessup was able to prove and to demonstrate the perfection of the union, for, by attaching the stomach to the pipe of the water cistern, he had been able to subject the junction to the full pressure of the water power of the town without the escape of a drop. The art of the operation had, therefore, been perfect beyond dispute ; but the examination revealed other points bearing upon its science which place it in a different aspect. It showed, first, that, at any rate in this particular case, the operation, had it even succeeded primarily, would have come too late. The surrounding mesenteric glands were implicated, and were infiltrated with cancerous material ; the disease, so far from being localised and confined to the pylorus, was diffused among the surrounding structures, and was not capable of entire removal ; and, had the patient recovered from the operation, must very speedily have so increased as to prove fatal. All this Mr. Jessop attributed to the delay which had taken place and the time that had been wasted before resort was had to operation ; and he expressed to me a pretty confident hope that, had he another opportunity in an earlier stage of the disease, he should be more successful, and that he should certainly not be dissuaded by anything he had seen in this case from attempting it again under other and more favorable conditions.

And yet I doubt whether this operation will ever come to occupy a recognized place in curative surgery. Will it ever be resorted to for anything except for malignant disease ? And if only for cancerous conditions, with the certainty we have of the return of the disease, will the risk of the operation ever be worth the running, except as a last resource, when temporary and very evanescent relief is all that we can hope for from it ? So powerful is the instinct of self-preservation, so strong the love of life, that here and there, perhaps, a gamester may be found to stake all upon the throw ; but that mere palliation, which is all that the surgeon can honestly promise as the result of his most effective and successful intervention, will ever be accepted as a sufficient inducement, save only to the very few, is, in my opinion, quite improbable. I ought not, while speaking on this subject, to pass by—without allusion, at any rate—a recent attempt that has been made to secure for the patient the advantage to be derived from excision of the pylorus without running quite so serious a risk as must necessarily be involved in so grave a proceeding as its entire ablation. It has been sought in such cases to attach the lower end of the duodenum, or the upper portion of the jejunum, to the stomach, and by opening a communication between these parts, to leave the pylorus out of the track of the food altogether, and so place it at absolute and final rest ; but as this and similar operations in other portions of the intestinal channel are as yet only as it were "in the air," I shall content myself just now with simply naming them.

What I have said of excision of the pylorus will also, in my judgment, apply to another attempt that has of late years been made in the same direction ; namely, the excision of the diseased structure in cases of chronic obstruction of the bowel by a ring of cancerous growth. I have seen such a portion of bowel removed, and removed with an amount of skill, precision, and delicacy that the mere art of surgery could not surpass, but with the same scientific aspect ; the mesentery, which must be left infiltrated, the system already impregnated, and the return of the disease certain ; and yet in many, very many, of these cases of chronic obstruction, I would not withhold the knife altogether. Seeing how it may arise from causes wholly independent of malignancy, and how difficult, how frequently impossible, an accurate diagnosis is, I think a patient so suffering should have the advantage that may possibly arise from an exploration placed fully before him ; and I would urge the examination, by abdominal section, of the obstructing cause ; but if I found that cause to be a ring of cancer I should hesitate most seriously before I proceeded to its removal ; not that I should think it unjustifiable, but simply useless, and as likely to put out the little flame of still flickering life, or to revive it only for an extension of future suffering.

On the general subject of obstruction of the bowels and its relief by operation, I should like to say a few words, and to gather up for your benefit the experience of my surgical life. As a student, I never saw such a thing as an abdominal section for the exploration of such a case. I never heard it discussed in consultation. So long as any outward hernial cause could be detected, it was, of course, promptly examined, but when the obstruction was purely internal, palliative measures were all I ever saw attempted. I have seen the inflated and distended bowel punctured to give exit to its gaseous contents, and even that was looked upon as a great and dangerous thing to do ; and of a truth it was so, for, while quite as likely to produce fatal mischief by the admission of fœtid gas into the peritoneum as a more decided operation, the temporary relief afforded from pain and spasm was scarcely worth the risk that was run, and the remedy was never curative In the present day, as you know, many lives are saved, and are as valuable after an exploration as they were before, or more so ; and the only question we have to determine is the propriety or otherwise, in any given case, of an operation. Where the obstruction is the result of prolonged peritoneal inflammation and consequent enteric paralysis, it is manifestly absurd to suppose that any good can come of surgical interference. But there is a result of such peritoneal inflammation in which, by timely help, the surgeon may save life as easily as he does when he liberates a strangulated hernia.

By peritonitis, two or more coils of intestine may have become glued together, or bands of lymph may have been so stretched from point to point as to form snares, in which loops of healthy intestine may be caught and trapped, and life may thus be brought into sudden peril. Such cases are usually as acute in the symptoms they produce as external hernia are, and the symptoms by which they are accompanied are of the same order. Thus, a person in otherwise perfect health, at least as far as is known, is seized quite suddenly with severe abdominal pain, which soon culminates in prostration, nausea, hernial vomiting, with local distension and great tenderness of the belly, and complete constipation. No hernial tumor can be found, and yet all the symptoms are those of hernia, with strangulation ; and in the name of surgery, we are bound to explore the belly to see if there be not some such temporary obstruction, capable of relief. If it can be ascertained that the patient has, on any former occasion, suffered from peritonitis, enteritis, perityphlitis, or from any inflammation likely to have been productive of lymph, which may have become stretched out into bands, so much the greater is the call for interference.

ORIGINAL ABSTRACTS.

Liquid Food for the Sick.—In his address on Therapeutics at the recent meeting of the British Medical Association, on Feeding of the Sick, Dr. W. Roberts thus speaks of liquid foods: In a considerable number of conditions, our patients are unable to take solid food, and are reduced to the necessity of using food which can be administered in the liquid form. This is usually the case in the febrile state and in serious organic disease, especially of the abdominal organs, and in the terminal stages of almost all diseases. There are other conditions in which, although the patient may have the ability to take solid food, it is not desirable that such food should be administered to him. In narrowing of the pylorus or other part of the digestive tract, in ulceration of the intestinal mucous membrane, it is obviously undesirable to administer articles of food which are capable of forming lumps or masses which may block up the narrowed parts of the intestinal tube or irritate the ulcerated surfaces. There is thus a large field for the employment of liquid food; and one of the most embarrassing tasks in clinical dietetics is to devise food in this form in sufficient change and variety, and having at the same time an adequate nutritive value. Our resources in this state of things consist of milk, beef-tea, and other meat decoctions, cold-made meat infusions, raw eggs, and the various gruels. I propose to make some remarks on each of these articles. *Milk.*—By far the most serviceable liquid food we possess is milk. Milk contains, in almost equal proportions, proteid, saccharine, and fatty matter, and is capable alone, as we know, of sustaining life. All plans of feeding the sick on liquid food centre round milk. It can be given alone, or mixed with tea, coffee, or cocoa, or with lime-water, soda-water, ardent spirits, or with farinaceous gruels of various sorts, or as buttermilk, koumiss, or whey. Were it not for the necessity of change and variety, we should, in a large number of cases, want nothing but milk. It should, however, be remembered that milk is by no means a perfect kind of liquid food. In the course of its digestion, both in the stomach and in the intestine, milk, or rather the casein contained in it, is coagulated into solid masses, and these masses have to be redissolved before they can be absorbed. Not unfrequently, if milk be given too freely, these curdy masses fail of being dissolved; and they pass down the intestine more or less unchanged, and are ultimately discharged with the stools. In this way milk may become an objectionable form of liquid food; these curds may block up a narrowed part of the intestine, or they may undergo putrefactive changes, and thereby irritate the tender or ulcerated mucous membrane. This drawback to the use of milk may be obviated by predigesting or peptonizing it, which is easily accomplished at a warm temperature by means of pancreatic extracts. The bitter flavor of peptonized milk is, however, nauseous to many invalids, and you cannot fully peptonize milk without developing this unpleasant flavor. One of the best means of covering the taste of peptonized milk is to add coffee to it. Another device, which may sometimes be adopted with advantage, is to add the pancreatic extract to cold or iced milk. In the cold, the action of the ferment is comparatively slow, and it takes some hours to produce an appreciable change of flavor. But as soon as milk, thus charged with the ferment, is swallowed and passes into the warm atmosphere of the stomach, it is rapidly digested. I have seen, in cases of typhoid fever, when undigested curds of milk were observed to be coming away with the stools, this plan followed by the immediate disappearance of these masses from the motions. But the palates of invalids are sometimes abnormally sensitive, and they detect, and resent, the mere presence of the ordinary pancreatic preparations in articles of food, quite apart from the digestive changes produced by them. Recently, Mr. Benger has placed at my disposal a pancreatic preparation which is absolutely free from taste and smell. This preparation, of which I here have a specimen, consists of the pancreatic enzymes in a highly purified state, under the form of a light, nearly white powder. It is not hygroscopic, and may be kept unchanged for an indefinite period fully exposed to the air.* This beautiful preparation is excessively active, and no palate can detect its presence in milk or other article of food until its effects are revealed in the process of digestion. I am inclined to think that it will prove a valuable addition to our resources when it is considered desirable to subject food to a process of pre-digestion, and still more when it is desired to add the ferment to the food in the cold state, with a view to promoting its rapid digestion after being swallowed. *Beef Tea and Other Meat Decoctions.*—Next to milk, in frequency of use and in high esteem, come beef-tea and other meat decoctions. Long experience has satisfied us in this country of the usefulness of these preparations in feeding the sick. Beef-tea and its congeners, however, take rank as restoratives and stimulants, rather than as nutrients. They contain no albuminous matter in solution, and the small quantity of gelatin contained in them cannot be of much account. There s a wide-spread misapprehension among the public in regard to the nutritive value of beef-tea. The notion prevails that the nourishing qualities of the meat pass into the decoction, and that the dry, hard remnant of meat-fibre which remains undissolved is exhausted of its nutritive properties; and this latter is often given to the cat or dog, or even, as I have known, thrown away as useless rubbish into the midden. A deplorable amount of waste arises from the prevalence of this erroneous notion in the households of many who can ill afford it. The proteid matter of meat is, as you know, quite insoluble in boiling water, or in water heated above 160° Fahr. The ingredients that pass into solution are the sapid extractives and salines of the meat, and nothing more, except some trifling amount of gelatin. The meat remnant, on the other hand, contains the real nutriment of the meat; and, if this be beaten to a paste with a spoon, or pounded in a mortar, and duly flavored with salt and other condiments, it constitutes not only a highly nourishing and agreeable, but also an exceedingly digestible, form of food.† *Cold-made Meat Infusions.*—The defect in nutritious value of beef-tea led Liebig to suggest the use of cold-made meat infusions. He recommended that minced beef should be infused in cold water, acidulated with a few drops of hydrochloric acid. An infusion so prepared differs essentially from beef-tea in the fact that it contains, in solution, a large amount of albuminoid matter. The addition of the acid is, according to my observations, a needless complication of the process. Infusions quite as rich in albumen were obtained when simple water was used, as when the water was acidulated with hydrochloric acid. Infusions made from minced meat with half its weight of water, and allowed to stand for two hours, and then pressed through cloth, were found, on analysis, to contain over four per cent. of dry albumen. This amount of proteid is equivalent to that contained in cow's milk. The nutritive value of such infusions is, therefore, very high. When heated to the boiling point, they coagulate into a solid jelly. Made from beef or mutton, the product has an unpleasant bloody appearance; but, when made from veal, the coloration is much paler. The best preparation, however, is made from the meat off the breast of a chicken. This meat is nearly white, and it yields an infusion which is almost colorless, and which sets on heating into a solid white jelly, of very agreeable appearance. Cold-made meat infusions cannot be heated above 114° Fahr. without becoming turbid from commencing coagulation of albumen. It is, therefore, impossible to cook them without destroying their liquid character. The objection to these infusions is their raw flavor, which to many is highly disagreeable—though some invalids take them without the slightest objection. The best way of covering the raw taste is too add some ordinary beef tea or a little of Liebig's extract of meat. Some prefer a flavor communicated by a slice of lemon, or by the addition of a little claret.* *Beaten-up Eggs.*—Another highly nutritive form of liquid food is supplied by raw eggs. The yolk, or white, or both together, are beaten up in various ways and combinations which are well known. Eggs are more easily digested by the stomach in the cooked than in the uncooked state; but, when the stomach is weak and unable to digest solid food, beaten-up eggs pass through it into the duodenum without being meddled with, and are slowly digested in their passage down the intestine. They are incapable of forming lumps or masses, and are, therefore, well adapted for cases of narrowing or ulceration of any part of the digestive tract. *Fortified Gruels.*—A very important kind of liquid food is furnished by gruels made with the several kinds of cereal or leguminous seeds. Gruels are not by themselves an agreeable kind of food; they lack flavor; but, mixed with milk or beef tea, they constitute a valuable addition to our resources in feeding the seriously sick. When prepared from the cereal flours in the usual way, they can only be made of feeble nutritive power, if their liquid character is to be preserved. These flours are very rich in starch, and gruels made from them become thick and pasty if the proportion of flour used in their preparation rise to four or five per cent., and a gruel of this strength does not contain more than one-half per cent. of proteid matter. But, if the meal be mixed beforehand with one-eighth of its weight of ground malt, you can prepare from these flours gruels of much higher nutritive value, and still preserve their liquid character. The diastase of the malt acts upon the thickening starch as the heat rises, and converts it into soluble starch and dextrine. These fortified gruels can be made with as much as twenty per cent. of meal, and still maintain the fluid state. Such gruels contain about two per cent. of proteid matter, and about fourteen per cent. of carbo-hydrates, and are admirably adapted, combined with milk or beef tea, to supply a varied kind of liquid food of highly nutritious character. Mixtures of this class seem especially suited for the nourishment of cases of typhoid fever. A matter of interest, in designing food for the sick-room and nursery, is the consideration of the special properties of the several kinds of cereal and leguminous substances used as food. In point of chemical composition, the several kinds of cereal grains are closely allied; still, there are differences between them, and these differences may be of importance. The proteid of wheat is not quite identical with that of oats or barley. On the other hand, leguminous seeds differ importantly in composition from the cereal grains. Taking the lentil as a type of the leguminous group, it is to be observed that lentil flour contains twice as much proteid matter as wheat or oat flour, and almost twice as much lime. Moreover, the proteid of the leguminous seeds differs materially from that of wheat or oats. These differences are probably of not a little importance in feeding the sick and the young; and, if we had more knowledge and experience in their use, we could, perhaps, utilize with advantage these several cereal and leguminous products, and combine them in varied ways to meet the indications and necessities of different cases. You must all have observed how there has grown up in these latter years an enormous trade in prepared "foods" for infants and invalids. The very success of this trade is some evidence of the usefulness of these articles. Their composition is generally made more or less of a secret, but whatever secret there be, must be hidden within a very narrow compass. The several possible flours out of which these "foods" are mingled can be easily counted—wheat, barley, oat, maize, pea, lentil, and one or two others. These are the ingredients—with malt flour in some cases—out of which they are all compounded. Now, I cannot help thinking that it would be an advantage both to ourselves and to our patients, if we knew more precisely what we were about in this matter, and if we were in a position to prescribe for infants and invalids the several kinds of farinaceous aliments in proportions known to us, instead of blindly using some mixture of which we know not the exact composition. It is impossible for us to make progress in dietetics on such a path. I can quite believe that these flours have their special excellencies, and that they are severally adapted for different cases and conditions. In the first place, they have distinctive flavors, and thereby may be made to contribute to the important end of providing change and variety for the invalid. Moreover, the faculty of "agreeing" of the different flours, in reference to the individual idiosyncrasy, is a point of not a little significance. Lastly, the difference of chemical composition between the cereal and leguminous flours must have an important bearing on the dietetic uses of these two groups of aliments. It is, I repeat, a serious disadvantage that the control of the preparation of food for the sick-room and nursery should pass from the hands of the medical attendant to those of the purveyor. In the matter of drug giving, all enlightened practitioners are chary of prescribing secret remedies. Such a practice, it is felt, must be fatal to the intelligent use of drugs. So it is with providing food for the sick. What we want is to have at our disposal a supply of the several articles of food in their simple state, and suitable appliances in connection with the sick-room or nursery for cooking and combining them in various ways according to the exigencies of our patients. If I were asked to enumerate the ingredients and apparatus which are necessary for the cuisine of the sick-room and nursery, I think I could do so very briefly. In addition to the resources of the domestic kitchen and larder, the sick-room kitchen should contain a supply of the following flours: oat, maize, malt, and lentil flours in a finely pulverized condition, and freed from bran. It should be provided with a solution of soda-bicarbonate of known strength. This would be of use to add to milk when necessary, and to assist in the preparation of peptonized articles of food. Next to these would come a reliable pancreatic extract, and a preparation of pepsin or rennet for the production of whey. The associated apparatus should include a thermometer, wherewith the nurse could, when desirable, heat up cold-made meat-infusions to a proper temperature, and regulate the warmth required in the predigestion of food. A double-cased saucepan would form an indispensable item; this makes an admirable hot-water bath for the preparation of beef-tea and fortified gruels. A pair of scales, glass measures, and a mincing machine would complete the list. Finally, there should be, for the service of the nurse, a card or sheet containing plain directions for the preparation of the various kinds of liquid food. Given these simple appliances, I see no difficulty, in these days of skilled nursing, in the medical attendant being able to prescribe almost any kind of liquid food for his patients in any combination, and having it served up for the invalid in the most suitable possible manner. I have ascertained that there is no difficulty on the part of the miller in producing meals from malt, oats, or lentils, freed from bran and coarser particles, and in nearly as fine a state of preparation as wheaten flour. In this state, these meals are susceptible of much more rapid and perfect cooking than when roughly ground. I have little sympathy with much that has been said of the advantages of whole meal and decorticated flour. It has been alleged that the too complete separation of the outer parts of the grain deprives the flour af its mineral matter. If we lived on bread alone, there would be some force in this objection ; but as that is not so, and as we find in milk, meat, fish, eggs, soups, and fresh vegetables a superabundant provision of mineral matter, and have, moreover, always at our elbows a supply of salt, there can never be any lack of saline materials in our food. The branny matter of the flour is both indigestible and irritating to theprimæ viæ; and although it may not injure, or may even be useful, to the strong and healthy, it is quite an unfit element in food designed for the weak and tender membranes of the invalid and infant.

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*It slowly acquires a slight, peculiar odor when kept in a tightly corked bottle, but this passes off when it is exposed to the air.

†These remarks on beef tea apply equally to Liebig's Extract of Meat, Brand's Essence of Beef, and Valentine's Meat-Juice, all of which are devoid of albuminous constituents.

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*Cold-made meat-infusions keep badly. They should be preserved in a cold cellar, or, still better, on ice.

DIARRHŒAS (Dr. H. C. Wood in *Therapeutic Gazette*).—The following prescription we have tested almost innumerable times. It makes a very agreeable and efficient mixture, and may be given if necessary every two hours. Of course it should be varied, especially in the opium it contains, to suit individual cases.

℞ Acid. sulphur. aromat., fʒiij ;
Extr. hæmatoxyl., ʒiij ;
Tr. cinnamon.,
Tr. opii camph., aa f℥iss ;
Syr. q. s. ad f℥vi. M.
S.—Tablespoonful, as required, in a little water.

A remedy, still less frequently used than sulphuric acid, but of great service in non-inflammatory diarrhœas, is carbolic acid, or, perhaps preferably, creosote. This remedy is especially useful in cases of lientery, with which there is such excessive nervous irritability of the bowels that food when taken passes right through. But it is also often very serviceable in ordinary summer diarrhœas. A very valuable combination, useful especially in sudden violent attacks, is afforded by the following prescription. It may be administered every half hour at first ; of course care must be exercised not to give the maximum dose too frequently.

℞ Chloroform, f℥ss ;
Ol. caryophylli,
Creasoti, aa fʒi ;
Tr. opii, f℥ss. M.
S.—Shake well. Dose, 20 to 30 drops.

In some cases, especially of more chronic or persistent diarrhœas, of which we have been speaking, where there is excessive acidity of the intestines, a combination of creasote with chalk or bicarbonate of sodium is very useful. Not rarely the addition of the creosote to an ordinary astringent cough-mixture affords excellent results. In regard to dysenteries, there are only two remedies which have in our hands given satisfactory results. One of these is calomel and the other ipecacuanha. Of the two the vegetable drug is the more universal in its application, although in the sporadic dysenteries, as seen in this climate, calomel is usually efficient. The objection to the use of ipecacuanha is the distressing vomiting which it is so prone to produce. The amount of vomiting is, however, very greatly affected by the method of administration. Some practitioners are accustomed to begin the treatment of dysentery by a large dose of the ipecacuanha in powder and endeavor to obtain tolerance after repeated vomiting, We have found that in many cases vomiting can be altogether avoided and the desired results achieved by giving the ipecacuanha in doses of five grains every half hour, in pill form in combination with opium, or, better, by preceding each pill fifteen minutes by a dose of opium. In very bad cases with pronounced so-called bilious symptoms—*i. e.*, excessively-coated tongue, epigastric tenderness or sense of weight, sick stomach, and vomiting—it is probably preferable to begin the treatment by giving the five-grain pill every fifteen minutes until free vomiting is set up.

THE TREATMENT OF ACUTE CORYZA (Dr. Solomon Solis-Cohen in *Philadelphia Medical Times*).—Belladona possesses the property of checking secretions from mucous surfaces, and has long been employed in acute coryza. The most convenient mode of administration is in the form of a solution or pills of sulphate atropia. These must be given early in the disease and will prove abortive in nine cases out of ten. A dose of 1-120 of a grain is to be administered when the case is first seen (if as early as the second day of the attack). If no dryness of the mouth be produced, this dose may be repeated in four hours. The rule for the third dose is the same, dryness of the mouth or dilatation of the pupils being an indication to stop the remedy. When a case is seen during the first twenty-four hours, two doses will often bring the affection under such complete control that the patient does not resort to any further medication. Secretion of thick yellowish mucus, requiring the occasional use of the handkerchief, will, however, usually persist for about a week, but there is ordinarily no embarassment to breathing. Sometimes it is necessary to repeat the dosage in the same manner on the following day, the indication being renewal of watery discharge, suffusion of the eyes, and more or less "stuffiness" of the nose. In order to secure the full therapeutic benefit of the atrophine in severe cases, it must be pushed until the physiological effect is produced—that is, dryness of the throat and dilatation of the pupil. One patient complained of the former symptom that it was worse than the disease. In one case 1-16 gr. of pilocarpine hydrochlorate was administered by the mouth, with the effect of relieving the unpleasant sensations. Ordinarily, however, the dryness is readily overcome by allowing a few pellets of ice to melt in the mouth, or by rinsing the mouth from time to time with cold water. The effect of cocaine in causing local contraction of blood vessels has led to its use in acute coryza. "While the relief is almost immediate, even in cases where there has been great obstruction to breathing, the effect passes away in from two to three hours, and the drug is too expensive to use as often as is necessary. I have found the fluid extract of erythroxylon to be equally efficacious, if instilled into the nose in sufficient quantity. The alcohol of the fluid extract is, however, objectionable, producing considerable smarting. An infusion can be made of equal strength by the addition of a small quantity of glycerine, and by this means we get rid of all the unpleasant effects not inseparable from the drug. The employment of a preparation of coca will give excellent results in connection with the atropine treatment. The patient is given a glass 'dropper' slightly curved at one end, such as is used by oculists, and instructed to flood the nose with the infusion of coca whenever it becomes 'stopped up.' He is directed to draw the medicine back into the throat, in order to make sure of reaching the posterior ends of the turbinated bodies." Dr. Cohen considers this plan superior to the old method of breaking up a cold with Dover's powder and hot oot-baths, although these remedies are good and have their advantages. With pilocarpine he has had but slight experience, having used it in but one case, with the result of producing slight perspiration and apparently curing the cold. In all cases he begins treatment by administering a brisk cathartic. In the latter stages of coryza, atropia cannot be employed to advantage. Here good results are sometimes to be obtained from the use of ammonium salicylate in doses of ten to fifteen grains, repeated every second hour until *tinnitus aurium* is produced. The ammonium salt has proved more efficacious than salicin, salicylic acid, or salicylate of sodium. "In a few cases of influenza, in which the coryza has been quite severe, in some of which there has been much conjunctival distress, and in all of which headache and lassitude have been marked, though the febrile symptoms have been mild, cinchonidine salicylate has apparently been of great benefit, while the infusion of erythroxylon has been of inestimable value in relieving the distress occasioned by the nasal symptoms."

THE CAUSE AND CURE OF HAY FEVER.—In a paper on this subject in the *Chicago Medical Journal and Examiner*, Dr. E. Fletcher Ingals thus speaks of the etiology: The theory of a nervous origin of hay fever has been generally accepted by the profession, but it was vaguely referred to the whole nervous system, and, until recently, no one suspected what now seems an established fact, viz.: That the tract involved is sharply defined, and usually more limited than that in a typical case of intercostal neuralgia. In 1882, Daly, of Pittsburgh, first called attention to the peculiar sensitiveness of certain portions of the nasal mucous membrane in individuals suffering from hay fever, and later, clinical observations of Roe, of Rochester, N. Y.; Sajous, of Philadelphia; Hack, of Freibourg; and Allen, of Philadelphia, and the physiological experiments of Mackenzie, of Baltimore, localized the sensitive tract for the majority of cases on the inferior turbinated bodies and the lower and back part of the septum. In a few individuals much more of the nasal mucous membrane is involved, and it is probable that, in very rare cases, the sensitive tract will be found to extend to the fauces and possibly to the bronchial mucous membrane, though usually during an attack, the involvment of the pharyngeal and bronchial mucous membranes is due to the extension of the inflammation from the first part affected. The latter experience of the physicians just mentioned and that of several others, with my own observations, leave no doubt in my mind that the theory rests on a foundation of fact. In the majority of cases the posterior third of the inferior turbinated bodies and the lower part of the posterior two-thirds of the septum are the only sensitive parts, but in a considerable number of cases the sensitive parts are even more limited, though in some, the middle turbinated body and the anterior portions of the septum and lower turbinated bodies are also involved. The sensitive areas are not uniform in different cases. They are commonly found in patches which may be either in one or both nares, and, in some, they may be found on any of the parts described. He considers the following points established with reference to the treatment of hay fever. 1st. Nearly all cases may be cured by systematic, thorough, superficial cauterization of the hypersensitive portions of the nasal mucous membrane, providing the treatment is carried out during the interval between the attacks. 2d. The most effective and least painful means of accomplishing this is by means of galvano-cautery. 3d. Care must be exercised to treat every sensitive spot, and not to cauterize too large a surface at once. 4. The operation may be made painless by a proper use of hydrochlorate of cocaine. 5th. In nervous subjects general treatment must not be neglected. 6th. The effects of cocaine in hypertrophic catarrh, and in the case of idiosyncratic coryza just reported, render it highly probable that it will give much relief in many cases of hay fever.

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PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre	equal to	15	troy grains	water.
1 centrilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. " "		455 69-100ths "
1 fl. gallon " "		231 cubic inches.
1 fl. pint " "		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudes, heimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

PROF. J. M. DACOSTA ON THE TREATMENT OF TYPHOID FEVER. By the reporter of "Class-room Notes."

1. Hygienic.—Place the patient in a large, well ventilated room, so that he may get plenty of fresh air. Allow but one person (nurse) with him. Keep friends away. Enjoin cleanliness. Keep patient washed twice daily with vinegar and water, or a solution of permanganate of potassium. Disinfect the dejections with carbolic acid or chloride of zinc, etc.

Nourishment.—There are times when the patient is weakest, as in the early morning; this is the case in all low fevers. Nourish him every two hours with beef or mutton broths, alternating with milk. Other broths, as chicken, etc., may be used. If the patient craves for more solid food, allow him at the midday meal a little arrow-root boiled in milk, or a soft-boiled egg. Excepting these, allow no form of solid aliment until convalescence is completely established, and then be careful. Be sure to feed the patient between 4 A.M. and 5 A.M.; even wake him at this time to feed him. Allow a liberal supply of water, or toast-water, ginger syrup and water, or claret and water. It will keep the kidneys washed out.

2. Medical treatment.—Different plans have been instituted:

1. Quinine, which has been justly abandoned.

2. The mercurial plan—calomel, grs. v-x per diem, at the first stage of fever—said to modify the intensity of the fever process. Not an effective plan.

3. Carbolic acid, gtt. j-ij, in mint water, every two hours. This remedy is not to be relied upon.

4. Iodine treatment, as Lugol's solution, gtt. ij., four times a day. This promises something good in the way of treatment.

5. The plan used by Dr. Bartholow in the following combination:

℞ Acidi carbolici, f ʒ j.
Tinct. iodinii, f ʒ ij.

Dose, gtt. j-iij, every two or three hours.

This is a good plan of treatment.

6. My own plan is by the use of mineral acids. Those that use this plan in Germany prefer sulphuric acid; in England, hydrochloric; in France, phosphoric; and in America, nitro-hydrochloric acids. Of the last an ordinary prescription is mxx of the dilute acid in simple elixir. This will also control, to some extent, the diarrhœa.

Do nothing else if you can possibly get along without, but guard against complications, and treat them immediately as they arise.

The first prominent symptom to be noticed is the diarrhœa. If there are but three stools, unless they be unusually large, do nothing. If very profuse, give a little tinct. opii camphorata at night, or an opium suppository, gr. j. Should this fail, use—

℞ Bismuth. subnitrat. gr. x-xx.
Opii, gr. ss-j.

Every three hours.

If this fails, try carbolic acid, gtt. j, with morphiæ sulph., every three hours. Often cupri sulph., gr. 1-12, with opium, gr. ⅓, is very effective.

For the tympany, cold applications, or injections of vinegar, f ℥ j-ij to water Oj. Internally administer turpentine, gtt. vij, in emulsion, with morphine, gr. 1-48. Often strychnine is useful, but secondary to the above.

Thoracic Symptoms.—The pulmonary congestion occasions cough; the patient's position must therefore be changed frequently. If the patient is not too feeble use dry cups. The internal use of turpentine is of avail when marked fever is associated with the congestion. Do not give expectorants. If there is a large accumulation of mucus, use aromatic spirits of ammonia.

Sustain the circulation by quinine in tonic doses, gr. vj-x, in the twenty-four hours, but alcohol is the best, repeated in small doses, to keep up the heart's action. In the early morning increase the dose. Under stimulus the pulse of 150 should come down to 120 or 110. The first sound of the heart is the key to the amount required. From four to ten ounces may be necessary. For nervous symptoms, as headache, delirium, etc., give opium with camphor or with belladonnæ. Chloral is the most useful, but do not give it when the heart is weak.

For high fever, cold water is excellent. Put the patient in a bath until the temperature of the water gets to 72° F. The tendency to intestinal hemorrhage is greater in this treatment than by quinine, which is next to importance, and should be given in doses of ℈j-ʒss in the day.

For intestinal hemorrhage, ergotin, gr. ij-vij, hypodermically, or f ʒ j fluid extract of ergot may be given every hour or two. Sulphuric acid is also useful. Opium, to keep the bowels at rest, is indispensable. Cut down milk and stimulus now.

Spreading tenderness (Peritonitis). Tinct. opii decodrat., gtt. x. every hour, and gr. j opium suppository at the same time. The suppository must not be repeated for four hours.

Should the patient have parotiditis ice is the best treatment; also tinct. ferri chloridi, to enrich the blood.

For the functional palsies use strychnia.—*College and Clinical Record.*

THE TREATMENT OF PSORIASIS WITH PYROGALLIC ACID AND COLLODION.—Dr. Geo. T. Elliot (*N. Y. Med. Journal*) says that he now uses the following formula to the exclusion of every other method of treatment. The strength of the solution has varied from 10 to 15 per cent., and he has not yet found it necessary to increase this strength.

℞ Acidi pyrogallici, ʒjss–ʒij.
Acidi salicylici, ʒss.
Collodii flex., ℥ij.
M. et ft. sol.

He makes the following remarks concerning it:

In using the pyrogallic collodion, the patient should be directed to first remove all the scales by taking a warm bath. After drying the body carefully, the solution should be freely applied to the lesions, the application extending one-fourth or one-half an inch beyond the edges of the psoriatic spots. This can be done by using a moderately stiff, bushy brush. Care should be taken that the lesions are completely covered with the solution, and the parts which have been painted should remain exposed until they are perfectly dry. A renewal of the application may be made every day if desired, but I have found it quite sufficient to repeat it every second or third day. Removal of the collodion still adhering to the skin is of course necessary previous to each fresh painting, since it is advisable to treat the psoriatic lesions, and not the old coats of collodion covering them. In all the cases of psoriasis in which the pyrogallic collodion has been used there has been no soiling of the patient's linen. After the application has dried, if it were not for the color, which gradually darkens, its presence would not be noticed. I have not seen any dermatitis follow its proper use in any case. One patient, however, for whom the solution was prescribed as an application for a spot of herpes tonsurans, applied it industriously three times daily, though otherwise instructed, and, as might have been expected, caused a dermatitis to light up around the lesion. In no case have I seen any pigmentation remain after the cure of the psoriatic lesions; the surface to which the pyrogallic collodion had been applied differed in no way in appearance from the surrounding skin. If the solution is improperly used, however, and dermatitis lighted up, pigmentation may easily occur; consequently it is necessary to be careful not to apply it so often that undesired results may ensue. The results obtained in treating psoriasis with the pyrogallic collodion have been in every way satisfactory. A great change could be seen in the lesions after a few applications. There was an absence of scales and a diminution in the hyperæmia, and the plaques and spots appeared less elevated. The time which was required in curing the psoriasis by means of this solution has naturally varied according to the extent of the disease and the length of time which it has existed. Any rule in regard to it could scarcely be made. The quickest results which I have obtained were in psoriasis guttata, and the slowest in a case of psoriasis nummularis of long standing. In cases where the eruption is universal, or nearly so, it is of course advisable to treat the various portions affected *seriatim*. The results will be just as satisfactory, only the time required will be longer. In one other form of skin disease, herpes tonsurans, I have used this solution of pyrogallic acid, and with most gratifying success. Its effect upon the lesions has been surprising, two applications having been sufficient in the majority of cases to effect complete cure.

COCAINE IN THE TREATMENT OF INFLAMED NIPPLES.—The *Therapeutic Gazette* says: "The limits of usefulness of cocaine do not seem to have been reached. The sphere of its therapeutic activity is, on the contrary, constantly increasing. One of the peculiar features of the remedy is the promptness and constancy of its action. Its latest employment is that advanced by Unna in the treatment of inflamed nipples, in which affection he holds it has no rival in marvellously removing both pain and soreness. Every physician knows how troublesome and difficult it is to cure a fissured nipple if a baby is nursing it. To afford prompt relief, even while the child nurses, has not hitherto been accomplished. Cocaine is said to have succeeded in all cases tried by Unna and others. The nipple is to be brushed every ten minutes, in the intervals of nursing, by a weak solution (one half to one per cent) of the hydrochlorate of cocaine. Within one or two days the fissure will have healed completely, and all pain consequently will have completely disappeared. The bitter taste of the drug does not prevent the child from nursing, nor is there any danger of its absorption and consequent untoward effects on the child. It would even possibly benefit the child when irritable and restless.

COCAINE IN CRACKED NIPPLES.—Dr. George C. Mecuen writes to the *Boston Med. and Surg. Journal* that he has found it to be a perfect anæsthetic in these cases. In three such cases a four per cent. solution was applied with a small brush, in five minutes a second application was made, and five minutes later two of the patients nursed directly from the nipple, the other using a nipple shield. All experienced a complete relief from pain. Furthermore it did not appear to hinder healing of the part. If time is any object a stronger solution should be used. Washing the nipple before the child nurses seems to make no difference to either mother or child.

PYRIDINE IN ASTHMA.—M. Germain Sée has recently made a very important communication to the Academie des Sciences de Paris on the treatment of Asthma, both of the pulmonary and of the cardiac form, with a new remedy called pyridine (*Revue Scientifique*, June 6, 1885). The only curative medication of pulmonary asthma (with the usual nervous element) is the treatment with iodine, as can be shown by the statistics of three hundred and seventy cases observed within the last seven years. The restoration process depends upon what See terms "l'ioduration" (i. e., saturation with iodine) of the lungs and the nervous system. Compelled by the occasionally observed intolerance of the drug or its failure when used to resort to the empirical use of other drugs, Sée studied among others the physiological action of pyridine with special reference to its influence over asthma. This substance, the formula of which is C_5H_5N, is a colorless liquid, evaporating on exposure, and emitting a peculiar penetrating odor, such as is noted in the dry distillation of organic matters, as cod-liver oil, and of certain important alkaloids, as cinchonine, quinine, and morphine. The same odor is also to be found in the products of condensed tobacco fumes and of nicotine itself.

In his experiments Sée used a rather peculiar method of applying the drug, viz., by aspiration. Four or five grammes of the drug are evaporated in a small closed chamber of about twenty-five cubic metres, the inhalations lasting from twenty to thirty minutes and being repeated three times pro die.

The following conclusions embrace his observations made on fourteen persons (three women and eleven men, aged from thirty to sixty-eight years):

1. Iodism constitutes the true curative method of treating asthma, no matter of what form or origin. Pyridine is the most certain agent of bringing relief when iodine fails.

2. Pyridine is superior to the hypodermic use of morphine, its action being more lasting and better borne by the system.

3. In nervo-pulmonary asthma the ailment can be thus stopped completely; in cases complicated with permanent pulmonary lesions, the treatment has to last eight to ten days, so as to render the obtained improvement permanent. In all other forms (especially cardiac, simple or complicated with renal lesions) pyridine renders great service in subduing the most persistent and painful symptom, viz., oppression, either constant or paroxysmal.—*Therapeutic Gazette.*

THE TREATMENT OF CHOREA.—M. Joffroy, in a clinical lecture upon chorea given at the Hôpital des Enfants Malades, Paris, advocates the prescription of chloral in this disease. He stated that in 1879 he administered the drug in two very severe cases in gramme doses every quarter of an hour until sleep was procured, the same dose being repeated whenever the child awoke. In that way he procured for the patient a continuous sleep, broken only twice in the twenty-four hours for the taking of food. The chloral was omitted in the one case at the end of four days, in the other at the end of five days, "not daring to prolong this deep and continuous sleep any longer." Marked improvement followed this somewhat heroic measure. His usual practice is to give chloral three times a day, and to continue it for a fortnight, a month, six weeks, or two months, according to circumstances—indeed, until a cure is effected. He has had no ill results from this treatment, and only occasionally has he observed a fugacious roseola or erythema, which lasted for twenty-four hours, and disappeared without discontinuing the drug. The object of this treatment is to procure as much sleep as possible, and the dose is of course proportioned to the age of the patient. Above the age of ten the daily dose is four grammes (i. e., sixty grains) taken after meals, one gramme in the morning, one at midday, and two in the evening. Between the ages of six and eight the total amount must not exceed three grammes daily, and the quantity administered must be graduated so that the largest (evening) dose should produce sleep within a quarter of an hour; and, as stated, it is continued until the choreic symptoms have disappeared. By this method he claims not only to prevent the serious complications that arise in the severer cases, but to appreciably diminish the duration of the affection. Curative as M. Joffroy believes chloral to be in its action, there are, he admits, some cases which resist its influence. These are severe and violent cases, and for them he employs the wet pack in addition to the sedative drug. The body being enwrapped in cloths soaked in cold water, vigorous rubbing is employed from head to foot, and when, after one or two minutes, reaction sets in, the patient, still enclosed in the pack, is completely enveloped in wool and left there for half an hour. This measure is always followed by a period of repose, the child generally passing into a deep sleep, on awaking from which the choreic movements are much diminished. The same treatment is applicable to all cases.—*Lancet.*

Electricity in Obstetrics.—Dr. W. T. Baird presents, in the July number of the *American Journal of Obstetrics*, the following tabulated comparison of ergot with electricity:

ERGOT.	ELECTRICITY.
1. Action slow—no response until after twenty or thirty minutes have elapsed, thus losing time, thereby occasionally proving fatal to the patient.	1. Action instantaneous, thus economizing time, and so in some cases proving of great value to the patient.
2. Action uncertain; in some instances it will entirely fail to produce uterine contractions.	2. Action certain; it need never fail to produce uterine contractions.
3. Action uncontrollable; it will sometimes "lash the uterus into a fury," which may produce laceration of the cervix or perineum.	3. Action under perfect control of the operator; therefore it may never endanger the integrity of the cervix or perineum.
4. Action always followed by shock, and sometimes by great exhaustion.	4. Action never followed by either shock or exhaustion.
5. Action attended with danger, and always with an increase of suffering.	5. Action harmless, and always attended with a diminution of suffering.
6. Action continuous, allowing no time for rest, thus violating one of the wisest provisions of nature.	6. Action rhythmical, "giving ample time for rest," thus stimulating nature.
7. It cannot be safely employed until dilatation of the os is well advanced; therefore its use is restricted to the latter part of the second and to the third stages of labor.	7. It may be employed as soon as the first labor pains set in, and thus facilitates the labor in all of its stages.

He states that electricity may be deemed indicated in any case where it may be desirable

1. To modify the pains of labor.
2. To favor a more rapid dilatation of the os.
3. To promote more vigorous uterine contractions.
4. To add tone and strength to all the muscles engaged, and "increase their power of doing work."
5. To abridge the time occupied by the labor.
6. To prevent shock, exhaustion, and post-partum hemorrhage.
7. To insure contraction of the uterus in cases of instrumental delivery.
8. To act as an auxiliary in the induction of premature labor.
9. To arrest hemorrhage and accelerate labor in cases of placenta previa.

10. To prevent an undue expenditure of nervous force, in all cases of debility from whatever cause, thus leaving the patient in a condition to secure a speedy and favorable convalescence.

THE TREATMENT OF CHRONIC CONSTIPATION.—The following combination used in the outdoor clinic of the Charity Hospital has proved of much service in those forms of constipation resulting from indolent habits, carelessness, and a sluggish state of the canal:

℞.	Strychniæ sulphatis	gr. ¼
	Cascaræ sagradæ, fl. ext.	ʒiv
	Elixir cinchonæ ferrat	℥iiiss.

M. Ft. sol. Sig. Dessertspoonful three times daily.

Patients are cautioned against using it as a purgative. If they do so, it is apt to gripe.—*New Orleans Medical and Surgical Journal.*

℞.	Resinæ podophylli	gr. vj.
	Ext. belladonæ	
	Ext. physostigmatis aa	gr. iij.

M. Sig.—One pill each night. (*Bartholow.*)

TO REMOVE FRECKLES.—The physician is frequently asked by lady patients for something that will remove "moth" and freckles. A writer in the *Pharm. Zeitung* says that a wash consisting of equal parts of lactic acid and glycerin will do the work, and is harmless when applied to the skin.—*National Druggist.*

ANTIPYRIN AND THALLIN COMPARED.—*First, with respect to the certainty of action.*—Both agents have a very certain action, for, when given in appropriate doses in cases attended with considerable pyrexia, they reduce the fever. They both act more powerfully as antipyretics in the pyrexia of pulmonary tuberculosis and typhoid fever than that of any other disease. When antipyrin is administered, the temperature commences to fall in from one to two hours after, and continues falling for a period of from four to six hours, when the maximum fall is reached. Thallin is somewhat longer in causing a fall of temperature, taking usually three hours before any marked effects are noticeable; but once the effects are manifest, the maximum depression is quickly reached, usually within two hours after. As regards the duration of the antipyretic effects, the fall in the cases of antipyrin lasts usually twelve and even sometimes sixteen hours, but with thallin seldom longer than six hours. The subsequent ascent after antipyrin is somewhat slower than it is with thallin.

With respect to untoward effects, neither agent can be said to be perfectly free from them, but they are less marked after antipyrin than after thallin. Both cause more or less sweating, but with neither is this a contra-indication of any moment. Rigors frequently attend the subsequent ascent of the temperature after thallin, while they are extremely seldom seen after antipyrin. Both cause exanthems, which quickly disappear after the effects pass off. In estimating the positive qualities of an antipyretic agent for evil, by far the most important point to take into consideration is the influence that it exercises on the heart. An antipyretic which has a cardiac depressant action is a two-edged tool. This is the reason that kairin has been practically discarded from practice. In full antipyretic doses it is apt to cause symptoms of collapse. It is the possession of these qualities that makes large doses (20 grains and upwards) of quinine such a dangerous remedy. Salicylic acid is not free from this action either. With regard to antipyrin, no indisputable case has been brought forward where any symptoms of collapse have been apparently directly due to it. As much, however, cannot be said of thallin. From the knowledge we at present possess of these agents, we may conclude that they are equally effective, but that antipyrin is the safest. Whether it is absolutely safe when given in proper doses remains to be seen.—*Prof. James Stewart in the Canada Medical and Surgical Journal.*

BIOGRAPHY.

Wm. Gaston Bulloch, M. D.

This well-known physician died at his residence in Savannah, Ga., on June 23, in the seventy-first year of his age. He was the son of John Irvine Bulloch, and great-grandson of Gov. Archibald Bulloch, of Revolutionary fame. He graduated from Yale College in 1835, and having selected medicine as his profession, at once entered upon his studies in the medical department of the University of Pennsylvania, from which he graduated in 1838. The thesis presented to the faculty on this occasion was on "Pneumonia."

After obtaining his degree he went to Europe to further prosecute his professional studies, the greater part of his time being spent in the hospitals of Paris. He then returned to the United States, and settled in practice in his native city. Being well prepared, and zealous in the performance of his professional duties, he soon acquired a large and growing practice, and throughout his life he retained the respect and confidence of the community and his professional brethren. Being public-spirited, he associated with all the literary and benevolent societies of his city. He was a member and earnest promoter of various medical organizations. He was President of the Medical Association of Savannah, and also, at one time, of the Georgia State Medical Association. He became a member of the American Medical Association in 1851.

Dr. Bulloch was one of the founders of the Savannah Medical College. He was a surgeon in the Confederate army during the late civil war, was alderman of Savannah for two years, and was physician to the city gaol from 1877 to the time of his death. His medical writings were chiefly confined to articles contributed to the *American Journal of the Medical Sciences* and to the *Savannah Journal of Medicine.* His remains were placed in Laurel Grove Cemetery, where the peculiar services of Masonry were performed in the presence of a very large concourse of his friends, and various associations of which he was a member.—*Journal of the Amer. Med. Association.*

ORIGINAL CORRESPONDENCE.

THE TREATMENT OF NIGHT SWEATS.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: I send herewith a prescription for night sweats, which I have used for many years and found to be very efficient. It is very rare that more than three pills in the twenty-four hours are necessary to promptly stop the trouble; and notwithstanding the fact that these pills are directed only for the relief of a disagreeable symptom, many patients suffering from phthisis declare that they are of real benefit in aiding a case of the disease, and continue to persist in their use long after the night sweats have ceased.

This prescription I have found very efficient, also, in relieving the nervous prostration that is so often seen in those who drink alcoholic liquors to excess.

℞. Oxide of zinc, gr. xij.
Pyrogallic acid, gr. xxiv.
Sulphate of atropia, gr. 1-24.
Extract of lupulin, gr. xlviij.
M. Make 24 pills, and silver coat.
S. One pill three times a day, soon after meals.

Q. C. SMITH, M.D.

Austin, Texas, August, 1885.

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REVIEWS.

ELEMENTS OF MODERN MEDICINE; INCLUDING PRINCIPLES OF PATHOLOGY AND THERAPEUTICS, WITH MANY USEFUL MEMORANDA AND VALUABLE TABLES FOR REFERENCE. Designed for the Use of Students and Practitioners of Medicine. By R. FRANK STONE, M.D., Professor of Materia Medica, Therapeutics, and Clinical Medicine in the Central College of Physicians and Surgeons, Indianapolis; Physician to the Indiana Institute for the Blind; Consulting Physician to the Indianapolis City Hospital; Member of the Marion County and of the Indiana State Medical Societies. New York: D. Appleton & Company, 1885.

A practicing physician is supposed to carry a little of everything in his pockets, but there is a limit to the capacity of even these useful receptacles, and Professor Stone's book, compactly printed in fine type though it is, makes, with its nearly four hundred pages, a somewhat bulky pocket volume. Still, for the amount of matter comprised in it, its size is remarkably small. It contains a vast amount of information in a concise form, and one would have to look through a good many works to gather knowledge on all the points that are treated upon. The author says in his preface: "As indicated on the title-page, the work is elementary in character and is not intended to supplant any of the many excellent and elaborate volumes comprising the details of medicine. But it has been suggested that an abridged work, presenting the more advanced views of leading authorities throughout the world with reference to general pathology and therapeutics, considered in connection with certain other points of practical importance, if arranged for convenient and ready reference (and of suitable form to be carried in the pocket), might prove of infinitely more value to a busy practitioner than many larger and more cumbrous volumes which fill the shelves of our libraries. The design has been not only to present, in a regular and systematic order, the general principles of pathology and therapeutics, and, in the light of present knowledge, to harmonize these principles with one another, but to simplify and to facilitate their application to the investigation and management of individual diseases."

While claiming but little more in the compilation of the work than the merit of novelty and utility in its objects and arrangement, Professor Stone, feeling justified in so doing by his extended and varied personal experience, does not hesitate to express his own views with reference to many controversial points of pathological and therapeutical importance. He is possessed of the courage of his opinions, and it certainly requires some boldness to avow, at the present day, such sentiments as the following:

"The author holds that the now so popular 'germ' theory of disease is, as regards its ætiological influence, a fallacy and a delusion; and which, by ignoring and supplanting the known factors of disease and the application of appropriate treatment, is deplorably misleading and impracticable. Viewing the causation of fever and of constitutional infectious diseases from the standpoint of physiological perturbation, he believes that the only germs that should be recognized as an etiological factor in this class of maladies are those which are natural to and evolved from the animal body itself while subject to the influence of abnormal conditions, and that all others found (such as the various forms of vegetable organisms) are the effect and not the cause of disease. * * * In the article on tubercle the author has thought best to express certain conclusions as to its origin and development which are in opposition to the recent bacillus theory of Koch, but which, he ventures to affirm, are more in harmony with general experience and observation." In the article referred to he states that "the process by which tubercle is developed must be looked upon rather as the operation of a morbid influence than as a result of a specific virus." "In short," he says, "the pathogenesis of tubercle is the result of malnutrition arising from an impoverished condition of the blood, allowing the extension, proliferation, and retrograde metamorphosis of its white corpuscles."

Such teachings are certainly remarkable in a work designed to "embrace the most important facts and observations which mark the progress of scientific and practical medicine" and "present the more advanced views of leading authorities throughout the world." Yet at a time when the great majority of "leading authorities throughout the world" are thoroughly convinced of the truth of the conclusions derived from the researches of Koch, confirmed as they have been by innumerable expert observers in erery civilized land, he can only grudgingly allow that "some credulous medical men, carried away by the novelty of the germ theory, actually believe this bacillus to be the cause of tuberculosis." While the student of medicine is at least entitled to a candid exposition of the most important views of the time on such a cardinal point as tubercle, whether the author accepts certain of them personally or not, the whole subject of Koch's brilliant achievements is passed over with two or three brief sentences which convey no idea whatever of the character of his investigations or the points which he claims to have established; and in the general introduction to the book, in which he professes to give a review of the recent progress and the present condition of medical science and of medical practice, the name of Koch is not so much as mentioned! The violent opposition of the author to everything favorable to the correctness of the hypothesis of the parasitic origin of infectious diseases leads him, as in the present instance, to make unfair and inadequate statements on this point; so that this prejudiced treatment of a subject which is engaging so much of the thought and labor of the scientific world at the present day constitutes a very serious blemish in a compilation such as this is designed to be.

In many other respects, as one would infer from the reference to its scope and character above, the work is of great value. To merely give a list of the subjects treated would occupy no small amount of space, and it will be possible to allude to only two or three of them. In the chapter on the anatomical characters of disease, among the conditions mentioned are, leucocytosis, alteration in the gases of the blood, acetonæmia, ammoniæmia, lithæmia, and melanæmia. In that on the symptoms and signs of diseases are embraced the mechanical, chemical, and microscopical examination of urine and the clinical import of morbid conditions of the urine. There is one chapter on physical signs of disease and another on the mode of examining patients, which contains a valuable scheme for clinical investigation. The final chapter of Part I., on general pathology, is devoted to miscellaneous topics of interest and importance, among which we find, the relations in which medical men stand to the law; the professional conduct of physicians; clinical records; method of conducting post-mortem examinations; medico-legal examinations; statistics of mortality, including death-rates of the principal cities of the world; British actuaries' tables; American mortality tables; expectation of life; human weights and measurements; and tables of differential diagnosis of eruptive fevers, of signs of pregnancy, for calculating the period of utero-gestation, and of fees.

In Part II, on Materia Medica and Therapeutics, remedies are arranged under four great divisions—viz., eliminants, hæmatics, neurotics, and topicals.

Then follow a "Selected Materia Medica List," the "Art of Combining Drugs," "Miscellaneous Formulæ," "Poisons and their Antidotes," and "Doses of the Principal Officinal Drugs."

The "Clinical Retrospect," with which the work concludes, embraces diseases of the digestive system, of the blood, of the circulating system, of the respiratory system, of the urinary system, of the nervous system, and of children. The book is neatly bound in limp morocco, and at the end of it is a pocket containing some very convenient clinical charts for bedside use. It is much to be regretted that it has not been furnished with an index, which would greatly enhance its value for ready reference.

THE PHYSICIAN'S MAGAZINE. Quarterly. Foote & Swift, Publishers, No. 1539 Chestnut Street, Philadelphia. August, 1885. Vol. 1, No. 1.

QUARTERLY BULLETIN OF THE CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL. Edited by the Executive Committee: Seneca D. Powell, M.D., Thomas E. Satterthwaite, M.D., W. Oliver Moore, M.D., Charles Henry Brown, M.D., and Samuel Lloyd, M.D. Editorial rooms, 226 East 20th Street, New York. August, 1885. Vol 1, No. 1.

The appearance of three new medical journals in the United States in the short space of two months, and that in mid-summer, certainly speaks well for the energy of the profession in this country.

The *Physician's Magazine* is a handsomely printed periodical of sixty-four pages, and it is announced that its folio size will be increased from time to time to meet the requirements of the contributions accepted for publication. It presents a long list of contributors of high reputation, among whom may be mentioned Drs. D. Hayes Agnew, Harrison Allen, Charles H. Burnett, Edward L. Duer, J. M. Keating, Thomas G. Morton, William H. Pancoast, Charles E. Sajous, and William J. White, of Philadelphia; Joseph W. Howe and F. R. Sturgis, of New York; William C. Dabney, Hunter McGuire, and Hugh M. Taylor, of Virginia; Charles Denison, of Denver, Col.; J. Mc F. Gaston and R. J. Nunn, of Georgia; W. H. Heath and Roswell Park, of Buffalo, N. Y.; A. Reeves Jackson, of Chicago; Robert Reyburn and Ralph Walsh, of Washington; A. J. C. Skene, of Brooklyn; and Albert Vander Veer, of Albany. With such good names to depend upon, this new journal will undoubtedly command success, and the first number, which is an excellent one, contains the following original articles: Active and Passive Inhalation (Illustrated), by Ephraim Cutter, M.D., New York: The Local Use of Cocaine and Brucine in Diseases of the Ear, by Charles H. Burnett, M.D., Philadelphia; A Plea for the Medicinal Use of Pure Alcohol, by Henry Leffman, M.D., Philadelphia; The Ammonia Treatment of Typhoid Fever, by S. K. Jackson, M.D., Norfolk, Va.; and The Early Treatment of Gunshot Wounds, by Roswell Park, M.D., Buffalo, N. Y.

The *Quarterly Bulletin of the Clinical Society of the New York Post-Graduate Medical School and Hospital* is also an attractive-looking journal of somewhat larger size than the other new quarterly (pp. 108), and on its cover it has the seal of the school. The first paper, by Dr. William H. Porter, Professor of Clinical Medicine and Pathology, is entitled, Observations on Phthisis and Pneumonia in their Relations to Syphilis; a Study of One Hundred Cases in which these Affections are Associated, and is illustrated with three cuts of microscopical sections, and a superb chromo-lithograph exhibiting syphilitic lesions of the lung. It contains nine other original articles by various members of the Faculty, and among them may be mentioned: On the Extraction of the Crystalline Lens in its Capsules, by Dr. D. B. St. John Roosa; The Physiological and Therapeutic Effects of the Coca Leaf and its Alkaloids, by Dr. William Oliver Moore; Some Experiments and Observations in Reference to the Diagnostic Significance of Epithelial Cells in the Urine, by Dr. William H. Porter; A Case of Tumor of the Cerebellum, by Dr. Graeme M. Hammond; and Rupture of a Dermoid Cyst During Parturition, by Dr. Seneca D. Powell. The rest of the number is made up of the transactions of the Clinical Society, an obituary of Prof. James L. Little, school notes, and hospital report. The purpose of starting the *Bulletin* will be seen in the following paragraph from the Prospectus: "It is not the intention of the Clinical Society to launch a new periodical upon the medical public without having first fully considered the subject, and without a careful deliberation of all points bearing upon this action. It was thought best, however, that the valuable matter presented at its meetings should be presented to the profession in a form that would enable it to be preserved for future reference." The enterprise is well deserving of encouragement.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA. REPORT OF THE STATE BOARD OF HEALTH.

The thirty-eighth year of the corporate life of this association is put on record very carefully and with much well-directed labor.

The Association has been of inestimable value throughout Alabama in encouraging a high standard of professional ethics and culture and in carrying out the organization of the profession of the State as thoroughly as posssible. Forty-seven counties are fully organized and embraced in the Association, and the work of organization will be continued until every county has been included.

Among other wise legislation the Association has passed an ordinance requiring every one proposing to study medicine to pass a preliminary examination. This, it is maintained, secures medical students of a higher class, and raises the standard by just so much. Whether this is the practical result can, of course, only be determined by extensive experience and observation. In these days, when education is free, and can be had without money and without price, there is no excuse for ignorance on the part of those presenting themselves for medical tuition. It was formerly very different, and many of the greatest ornaments of American medicine would have passed their lives in mercantile pursuits if preliminary examinations had been in vogue, and students had been required to come up to the higher standard. Civilization has brought the people many schools and much teaching; but who can say that the development of character, firmness of purpose, and untiring energy which lack of these means so often developed, was not of equal value in the preparation for the battle of life? Such a life-history as that of the late Dr. Warren Stone, of New Orleans, is no longer possible in this country. Can the public schools and the incessant teaching ever develop the rugged and magnificent qualities of mind and heart which made him so distinguished? This is not a plea for ignorance—far from it—but only a reminder that every evil has its counter-balancing good, and that the profession must not expect to find its ranks reinforced by any great increase of intellectual power, even though every State Board passed this same most desirable ordinance.

The annual address of the President, Dr. B. H. Riggs, of Selma, Ala., is of more than usual interest, being clear, practical, and free from all unnecessary detail.

His suggestions are always wise, and he evinces an admirable knowledge of the whole complicated machinery of the State Association. The term "complicated" is used because the Association includes in its area the State Board of Health and the State Examining Board. Its officers are workers in every department, even the vice-presidents being expected to do their share, as is also the case in the New York State Medical Association. Now an organization requiring work from its vice-presidents is certainly no encourager of titled idleness, and is quite out of harmony with the spirit of Amerіean law. The idea is a good and valuable one, nevertheless, and is hereby commended to the consideration of other associations. Who can compute the immense accession of power which would be brought to bear upon all organizations in this country, if by some sudden inspiration vice-presidents should become active and working institutions?

The annual oration was delivered by Dr. J. T. Searcy, of Tuskaloosa, his subject being, "Success in Life, Physiologically Considered." The address is valuable, and well worthy of reproduction before a more extended audience. Success in life, and in what it consists, whether taken from a physical, intellectual, or moral standpoint, must always be a subject of deep concern to the thoughtful and observant.

A very good paper was read by Dr. J. T. Heustis upon the "Treatment of Fractures," and one upon "Superficial Scalp Wounds," by Dr. B. M. Hughes

An exhaustive résumé of the subject of "Dysentery in Alabama" was given by Dr. Peterson, of Greensboro.

Dr. H. J. Winn, of Birmingham, made an earnest appeal for the "Sanctity of Fœtal Life," and Dr. W. H. Johnston followed him with a paper entitled "A Reply to the 'Plea for the Unborn Child.'"

The proceedings would not, of course, have been complete without a paper on "Hydrochlorate of Cocaine as a Local Anæsthetic in Eye Surgery," which was furnished by Dr. W. H. Saunders, of Mobile, who has used this drug extensively, and ranks it among the most benificent gifts which science has conferred upon man.

The Association adjourned after four days of good and honest work, and all of the members must feel that they are doing much for the welfare and advancement of medicine in their own State and elsewhere.

PROCEEDINGS OF THE FLORIDA MEDICAL ASSOCIATION. Session of 1885. Jacksonville, Fla., 1885.

The address of the President, Dr. John P. Wall, of Tampa, concludes as follows: Before closing, I would briefly call your attention to some needed legislation, as much, if not more, in the interest of the people as that of our profession. In the first place, the need of a State Board of Health is manifest. Heretofore we have met with failure in several efforts to get the Legislature to enact the necessary laws to establish one. One cause of failure is doubtless owing to lack of information on the part of the public as to its necessity and the work to be accomplished. But, even if established, such a board is not likely to prove a success unless cordially supported by the profession of the State. For this reason, we should model our laws establishing a Health Board after those of Alabama—if my impression of them is correct—as conferring certain powers on our State Association which cannot fail to prove, in their workings, mutually beneficial to the people and the profession. At the recent meeting in New Orleans of the American Medical Association, resolutions were passed recommending the establishment of Health and Licensing Boards in the different States, and it is because Alabama has both of these boards in connection with, and more or less under the supervision of, her State Medical Association that, in my opinion, we should pattern after her in getting the necessary laws enacted. There is also need of legislation in regard to our relations to the courts of justice in the capacity of medical witnesses and experts. Our knowledge is our capital, and the State has no more right, in equity, to use that for the public good without adequate remuneration, than she has to appropriate the property of other citizens for public purposes, without pay. Nor is this all, as, in the absence of any statutory provision, the secrets of our patients confided to us as medical attendants, can be extorted from us in the courts of justice. According to Greenleaf: "Protection is not extended to medical persons in regard to information which they have acquired confidentially by attending in their professional character." "As the law now stands," says Dr. Johnson, of Baltimore, "the medical person, so confided in, has no protection in the law; even, if the Judge choose to overlook his refusal to appear, the doctor, like any other ordinary witness, may be prosecuted for damages sustained by the party calling him, if it can be shown that by the withholding of testimony the party's interest had suffered." In the States of New York, Missouri, Michigan, Wisconsin and Iowa, statutes have been passed making the confidential disclosures of patients, necessary to the treatment, to their medical attendants, matters of privilege not to be disclosed without the consent of the patient.

An interesting and able paper was read by Dr. R. B. Burroughs, of Jacksonville, on "The Diagnosis of Dengue, Malarial or Bilious, and Yellow Fever," in which he says:

Some very able men regard these fevers as identical, considering yellow fever a severe form of bilious fever, and dengue as a light form of yellow fever. I have for many years regarded them as distinct diseases, and will give you the reasons why I have not departed from this opinion. In order that we may perceive the dissimilarity of the more prominent features of these three distinct diseases, resembling each other in some of their minor points, let me present to your mind's eye, though with unskilled hand, the photograph of each, in order that we may the more easily recognize the Gorgon head of the monster that has, thank God, only occasionally visited our shores. The features of *bilious fever* are too familiar to us all to need aught but a slight description, whether it wear the ominous form that presages death or not. We recognize it at a glance. It comes with a foul, dirty or brownish yellow tongue, with loss of appetite, nausea and gastric distress, then chilly sensations or a decided chill or alternations of heat and cold. Then comes a change, the skin grows hot, the surface flushed, the tongue more foul, the temperature rises to 103, 4 and 5; the pulse to 120, 30 or 40; the temples throb and the head, back, and limbs ache, the pulse rising *pari passu* with the heat, there is jactitation and great nausea and vomiting of *bile*. Then after from twelve to eighteen hours comes another change. The headache and vomiting subside, the urine loses its brick dust color and becomes more copious, and the skin is bathed with sweat. We see here three separate and distinct stages, the second ending with a critical discharge. At or about the same hour, the curtain rises and we behold the same characters upon the stage. If the disease assumes more gravity, the interval becomes shorter, the fever becomes higher and death, in from eight to twelve days, drops the curtain upon the scene, or in response to remedies, the intermission or remission becomes longer, the temperature and pulse rise to a lower point, and the patient, feeble and emaciated, goes on to convalesence.

Dengue, or Break Bone Fever, is a malady of several phases, from a mere *ephemeral fever*, to one of several days' duration, and though disguised so that we may not at first know what it is, we will know what it is *not*, that it is neither bilious nor yellow fever. Though its minor features often present a similitude to other fevers, these being headaches, languor, auonxia and chilliness. According to Wilson, however, its onset is abrupt, the patient being seized with acute pain in the limbs and joints, which become stiff and swollen, with high fever, dilated pupils, intolerance of light, swollen forehead and features, inflammation of parotid and other glands, *irregular* remissions, with a tendency to faintness and of pulse to fall below natural standard, and an eruption upon the skin, and the fever subsiding with critical discharges, sweating or diarrhœa.

Dr. Thomas, an accurate and careful observer, describing the epidemic of 1880. in Savannah, says: " A severe attack of dengue is ushered in with the usual prodromata of the other fevers under discussion. That as the fever rises there are intense throbbings of the temples, great intolerance of light, dilated pupils, red and congested eyes, temperature 104 to 108, stiffness of the neck, some pains of a rheumatic character in every part of the body, swelling of the joints, white tongue, and a peculiar bitter taste in the mouth, with an eruption upon the face and body. The forehead becomes swollen and puffy, eyelids, œdematous and lips thickened and prominent."—Break Bone Fever, unlike bilious or yellow fever, is an eruptive disease, the first eruption being so slight and lasting for so short a time as to escape observation. It comes on about the first day. The secondary eruption almost always present, comes on at the rise of the paroxism of fever, from the third to the eighth day, and may resemble perpes, measles, or uticaria and apthons, ulcerations occur upon the tongue and mouth, the urine generally is scanty, but devoid of albumen. This is dengue, lasting generally, from three to eight days, but often running on for weeks, with irregular remissions and painful and dangerous sequelæ, but generally almost invariably ending in recovery, the few deaths having been from the effects of the malady upon a diseased heart.

If the English brood mare is impregnated by the Quagga, a subsequent conception by the full-blood racer will, bearing the impress of a former conception, bear the stripes of the Quagga. So one strongly marked malady may make its impress upon another, as we constantly see during an epidemic, all fevers assuming the type and some of the forms of the prevailing epidemic. Were yellow fever and dengue the *same*, an attack of yellow fever, which, to a great extent, gives exemption from another attack, would give exemption from an attack of dengue, and vice versâ, which is not the case. Dr. Osgood states that when dengue appeared in Havana, persons contracted it who had just recovered from yellow fever; and Dr. Thomas states that when dengue broke out in Savannah in 1880, those who had yellow fever in 1876 enjoyed no exemption. Were the germs the same, frost would be fatal alike to each, which is not so. Yellow fever, the bane of the seaboard, will present the minor features of the others of which we have spoken. There is, perhaps, a chill, but generally not so marked or decided as in bilious fever. There is gastric uneasiness, with pains in the loins and limbs, but soon the distinctive features appear; the skin becomes intensely hot and generally dry, the pulse full and bounding, the headache intense, the pains in the loins excruciating, the eyes injected and watery, with drooping lids, as if exposed to an oak wood fire in a room with an imperfect flue, or injected and yellowish in color; the stomach becomes intensely irritable and tender to the touch, with constant retching and frequent vomiting of a glairy mucus, and, as Dr. Arnold stated often, of a bluish-green color.

Though the skin is so hot (the maximum height which the temperature reached I am unable to give, as I am giving an account of the disease as I saw it, and the clinical thermometer was not in use at that time), and though the fever lasted in severe cases from 36 to 72 hours, the pulse would not rise higher than 100 or 110. Unlike bilious fever, the pulse beat does not increase *pari passu* with the heat, but with a rising temperature will fall to 50 or even 30 beats in the minute, and though the headache was so violent, the intellect would remain clear and free from the stupor that almost invariably exists for three or four days anterior to the close of the fatal cases of bilious fever. I have seen a restlessness, a disposition to wander about, an indescribable inebriated look, resembling alcoholism, not seen in other fevers; an apathy and indifference unlike the habitude of dengue even after black vomit had appeared. I have seen the patient conversing calmly and cheerfully with his friends, with every appearance of convalescence, a few hours before death, and after throwing up black vomit. After the fever has lasted from 12 to 72 hours, it declines generally *without sweating or any critical discharge.* In some cases the pulse falls rapidly, the vomiting *increases,* black vomit appears, and the patient dies. In less severe cases a calm appears, lasting from twelve to twenty-four hours, and then melaonic discharges and black vomit. In a few cases the system is overwhelmed by the poison, and I have seen black vomit followed by death in a few hours. Such is yellow fever.

The remainder of the paper is devoted to a direct comparison, in tabular form, of the prominent features of the three maladies, embracing the invasion and duration, the condition of the tongue, eyes, skin, pulse, urine, bowels, and intellect, the manner of vomiting and peculiarity of the matter vomited, pain, contagiousness, sequelæ, effects of heat and cold, fatality, and *post mortem* appearances.

BOOKS AND PAMPHLETS RECEIVED.

"Second Report of the State Board of Health of the State of Tennessee. October, 1880—December, 1884."

"The Scientific Proceedings of the Royal Dublin Society, July, 1884. January, 1885."

"The Scientific Proceedings of the Royal Dublin Society, July, 1884. Catalogue of Vertebrate Fossils from the Siwaliks of India, in the Science and Art Museum, Dublin." By R. Lydekker, B. A., F. G. S., F. L. S. (Plate III. and Woodcuts.) November, 1884. "On the Origin of Freshwater Faunas: A Study in Evolution." By W. J. Sollas, M. A., etc., Professor of Geology and Mineralogy in the University of Dublin. February, 1885. "Memoirs on the Coleoptera of the Hawaiian Islands." By the Rev. T. Blackburn, B.A., and Dr. D. Sharp. (Plates IV and V.)

"Circulars of Information of the Bureau of Education." No. 2, 1885. Teachers' Institutes. Washington Government Printing Office, 1885.

"Observations on Some Changes in Form of the Prostate and Floor of the Bladder, with Eight Illustrations." By Reginald Harrison, F.R.C.S. Reprinted from the *Liverpool Medico-Chirugical Journal.*

"Introduction to a Discussion on the Diagnosis and Treatment of Tumors of the Bladder." By Reginald Harrison, F.R.C.S. British Medical Association Annual Meeting, 1885. Surgical Section.

"Deviation of the Nasal Septum." By J. W. Gleitsmann, M.D. Reprinted from the *American Journal of the Medical Sciences.*

"Laryngeal Hemorrhage." By J. W. Gleitsmann, M.D. Reprinted from the *American Journal of the Medical Sciences.*

"Voice in Singers." By Carl H. Von Klein, A.M., M.D. Columbus, Ohio, 1885.

"Cholera; Its Nature, Symptoms, History, Cause, and Prevention, with an Outline of the Germ Theory of Disease. One of the Somerville course of Lectures (extended) provided for by the Natural History Society of Montreal. Delivered on April 9, 1885." By J. B. McConnell, M.D. Montreal, 1885.

"Tabular Statistics of One Hundred Cases of Uretheal Stricture, Treated by Electysis, without Relapse." By Robert Newman, M.D. Reprinted from the *New England Monthly Magazine.*

"The Southern Journal of Health. A popular Monthly Devoted to Climate, Hygiene and Sanitary Science." Published at Atlanta, Ga. Horatio P. Gatchell, M.D., Editor. Vol. I. No. 5, September, 1885.

"Seventh Annual Announcement of the Fort Wayne College of Medicine." Session of 1885–86.

"The New York Post-Graduate Medical School and Hospital." Announcement of the Fourth Year, with a Report of the Dispensary and Hospital. Session of 1885–86.

"Annual Announcement and Catalogue." Memphis Hospital Medical College. Session of 1885–86.

MISCELLANEOUS.

TRIBUTE TO THE UNIVERSITY OF PENNSYLVANIA.—In commencing the last annual address before the Alumni Society of the Medical Department of the University of Pennsylvania, the orator, Dr. Eugene Grissom, paid the following eloquent tribute to his Alma Mater:

The pilgrim to the sacred shrines of his forefathers, who stands within the venerable precincts of Westminster Abbey, and beholds around him the memorials of the master spirits of their race, gathered in one Pantheon, of the most exalted figures in art and government, in science and literature and heroism; who sees the warrior's sword, the bishop's mitre, the poet's lyre, the philosopher's pen, the judicial ermine, and the kingly crown, assembled together in the sublime juxtaposition of centuries, pauses reverently in the presence of the mute Parliament of the children of Fame. Kindred emotions fill my breast when I stand at the portals of the University of Pennsylvania, and contemplate the great past of the mother of medicine in America; with her deathless roll of elders and sages, and her long line of nearly ten thousand graduates; sent forth not indeed to rule as kings or please as poets, nor perhaps to dazzle by the fleeting glories of the hero's hour, but rather to live for their fellow men—to lift them up from weakness and decay—to teach the better things of this physical existence, and to die, if need be, in the salvation of human life and hope. What an array of great men rises to the mind as we witness the magnificent monument of their labors. Unlike the Egyptian of to-day, who surveys the vastness of Cheops without a dream of its builders, it is *our* privilege to grave on perennial brass the names of those to whom humanity owes more than pen can inscribe, or the loud trump of Fame can proclaim throughout the ages. The elegant Kuhn, true gentleman of the old school, with ruffles and gold-headed cane, and his merciless standard of punctuality; Bond, the originator of the Philadelphia Hospital; the zealous Morgan, demanding freedom for medicine in America; Shippen, essaying the herculean task of his triune chair of anatomy, surgery and midwifery; and Rush, the patriot and sage—youngest of them all, but destined to write his name so high on the arch of medical fame that generations yet to come must declare whose shall be accounted worthy to surpass its glory. While medicine retains her votaries in America, the student will learn that Caspar Wister prepared the first anatomy west of the Atlantic. While the American Medical Association shall exist, it will be remembered that its first president was Chapman, another of the beloved and venerated names, among which shine those of Barton, Physick, Dewees, Horner, Hare, Gibson, Jackson, George B. Wood, Hodge, James B. Rogers, Carson, the elder Pepper, Francis Gurney Smith, and John Neill—a medical galaxy unsurpassed in the world. Aye, and to these only the restraints of delicacy forbid me to add the names of others whose services in the scientific and recondite labors of to-day render them the pride of their profession while they live and assure them a glorious immortality in the annals of science.

It must needs be that an alumnus of a quarter of a century ago should survey with astonishment and profound pleasure the enormous advance of his Alma Mater and the rapid progress of her recent development. Your new and spacious buildings, with their wealth of adaptation to scientific labor, your increasing array of libraries and museums, your laboratories and clinical wards, your extensive grounds and generous endowments, and your growing influence in the medical world—all these are good and grateful to behold. But the brightest jewels in the crown of the University to-day are her means for the advancement of medical education to such a lofty standard as shall not only be worthy of the civilization of the present day, but shall send forth the men who shall guide and elevate that civilization to the noblest plane of social development.

THE LANCET'S TRIBUTE TO DR. FLINT.—We are glad to gather from our latest information from the United States that the prospects of the International Medical Congress meeting have improved. It would be strange indeed if such a project in such a country could fail of a successful issue. The organization of the profession there may be somewhat different from what it is in older countries, and there may be ideas of professional freedom which exceed ours. There may even be questions of a personal character involved in the arrangements to be made; but that the arrangements will be great, and conceived in a magnanimous spirit, and worthy of the profession of a great country may, we trust, be taken as already secured. One guarantee of this hopeful view being realized is to be found in the nomination of Dr. Flint as President of the Conference. Dr. Flint is so well known amongst us, not only by his works, but by his genial and dignified presence, that the English profession will need no other proof of the oneness of the profession in both countries, both in its spirit and its practice, than the selection by the American Medical Association of this distinguished physician for the chair of the Congress. It will be the same in other European countries. Dr. Flint has not hesitated to take long voyages in promotion of the international co-operation of the profession. He was as active at Copenhagen as in London, and we doubt not that the European response to the American invitation will be wide and hearty. The little differences which have arisen in America are such as the approach of the Conference will dispel or resolve. Some of them are differences which will keep, and which can be postponed till after the Congress. The Congress itself will swallow many of them up, and give an overwhelming exhibition of the unity of the profession, such as will best at once answer and convert those who would break it up into sections and cliques, or liberate any of its members from those great traditions which have been the distinction of the profession from the time of Hippocrates downwards.

A FLAGRANT CASE OF NEWSPAPER ADVERTISING.—The *New York Times* of September 3d published the following account:

THE CANCER TAKEN OUT.

A remarkable operation performed at the Charity Hospital.

"Mrs. Ann Curry, who is 50 years of age, has suffered for two years with malignant cancer of the abdomen. She consulted several physicians of this city, and all said the trouble was cancer, but none of them would undertake to perform an operation for its removal. Three months ago Mrs. Curry was induced to enter the Charity Hospital, where she was visited by Dr. Thomas H. Allen, of No. 19 Park-Avenue. When told that an operation from the effects of which no patient has ever recovered and only three have left the operating table alive was her only chance of life, Mrs. Curry announced her willingness to take the risk rather than live longer in such misery. The operation was performed yesterday afternoon in the presence of Drs. Ferguson, Goldthwaite, Thompson, Bridges, Wells, Moore, and Brinkman. The patient was placed under the influence of ether, and Dr. Allen made a long, straight incision into the abdomen, from the pit of the stomach downward, and the assistants tied the arteries. A spray atomizer was used to sprinkle an antiseptic fluid upon the wound. The patient's pulse was very strong, and but one injection of brandy was necessary during the operation. A small drainage-tube, made of prepared chicken bone, was inserted to carry off any clotted blood or foreign fluids that might collect around the diseased organs. Dr. Allen then removed the abdominal organs, while his assistants tied one artery after another. It was discovered that the bladder and several surrounding organs had been attacked by the germs of the disease, and these had to be scraped until all the traces of cancer were gone. The work was finished in a few minutes, and the opening in the stomach was drawn together and sewn up with a fine silver wire. These stitches were afterward supplemented with others of catgut. Upon examination the cancer was found to weigh nearly 12 ounces. The organ to which it was attached, instead of weighing three or four ounces, as it would have done in a healthy condition, weighed nearly one pound. Mrs Curry was taken to her room in safety, and *all danger of a primary shock was removed.* The danger now lies in a secondary hemorrhage or peritonitis."

When the reporters get hold of a case like this, however, they generally like to see how it turns out, and, accordingly the next day the paper made the following announcement, which it is to be hoped will not be permitted to detract from the surgeon's glory.

"Mrs. Ann Curry, from whose abdomen Dr. Thomas H. Allen extracted an enormous cancer on Tuesday afternoon, died at four o'clock yesterday morning at the Charity Hospital after having survived the operation for twelve hours. Death resulted directly from shock."

HUGO'S ONE SUPERSTITION.—Dr. Johnson has his Boswell and Victor Hugo has his Richard Lesclide. M. Lesclide, who has just published a volume of *Propos de Table* of the great French poet, was for many years the daily companion of the author of "Les Chatiments," and he tells us, among many other things, that Victor Hugo confessed to the possession of only one superstition. Nothing could induce him to form one of thirteen at table. Whenever a thirteenth arrived at the last moment it was M. Lesclide's business to pick up his hat and depart. The vitality of this hoary superstition, which no doubt originally grew out of the story of the Last Supper and of the tragic events which so quickly followed it, is remarkable. Any one who takes the trouble to refer to the accepted tables may see for himself what is really the expectation of human life. It will be found that, in order to obtain a mathematical probability that one out of a given thirteen healthy persons will expire during the following twelve months, the average age of the thirteen must, in the default of the presence of one or two on the verge of centenarianism, be very great indeed. It must, in fact, be about eighty-eight years, and it is scarcely necessary to say that, in practice, the united years of a festive party of thirteen never amount to the requisite 1,144. The annual rate of mortality among males and females of all ages is only one in forty-one, and forty-one, therefore, instead of thirteen, should be held to be the unlucky number. This has been demonstrated over and over again: yet the number thirteen still remains ominous to thousands of excellent people in all classes of life.—*The London Daily News.*

A PLEASANT SEND-OFF TO PROF. J. W. HOLLAND.—At a farewell supper given to Dr. Holland by the Salmagundi Club, of Louisville, a prominent legal light read some verses, of which the following form the conclusion:

Prophetic muse! that future show
When, in his chosen college,
Our friend the highest limb shall climb
Upon the tree of knowledge.

And, as his science says, each plant
Its virtues quickest gives
When steeped in generous wine, and yields
The cure that in it lives,

So in the school which now he joins
Will choicer learning grow
When Holland's spirit draws from each
The choicest each may know;

And great renown shall crown his name,
Rewarding learned toil,
His name become a household word,
Like to St. Jacob's Oil.

Yet there'll come moments when such fame,
Great as its greatness be,
Will tire the sage, and he will pine
For comrades such as we;

For comrades who no liver know,
Friends who have no catarrh,
Whose spirits never sink too low,
Nor soar away too far;

Friends who sound learning can admire,
To friendly wit give play,
Unite diversion with research,
The serious with the gay.

At such times in his leisure hour,
Some holiday or Sunday,
Then will friend Holland call to mind
His friends in Salmagundi.

CHROMIDROSIS.—A case of chromidrosis was reported by M. Féréol to the Académie de Médecine on August 18. (*La France Médicale*, August 20.) In the course of last winter M. Féréol first saw the case, which was that of a young woman aged twenty. At that time she was suffering from severe attacks of hysteria; her condition was alarming, and she was much wasted. When examined two months ago, it was noticed that the lower eyelids were of a bluish tint, which became more and more intense as the patient continued to speak. The handkerchief, when vigorously rubbed across the lower eyelid, became stained of the same color, whilst the eyelid became clean and of its natural color. At the end of twenty minutes the bluish tint had begun to reappear, but there was no perspiration, and no minute granules could be seen even with a lens. The tint had a uniform appearance. The coloration had been noticed in February last, after recovery from the hysterical convulsions. The same purple staining was observed over the sternum between the mammæ, as well as in the axillæ, but these localizations had disappeared by the month of March. Fraud is said to have been out of the question.—*Lancet.*

PASSAGE OF BACTERIA FROM MOTHER to FŒTUS.—An experimental inquiry which may throw light on the relations of the fœtus to the mother in infectious diseases has been communicated to the Académie des Sciences by M. Pasteur for M. Koubassoff. A full abstract of the paper is reported in *L'Union Médicale* of July 18. The mode of procedure was to inject various cultivations of the bacillus anthracis under the skin of a pregnant guinea-pig. A careful examination of the fœtus was made after the death of the mother. It was found that the bacilli of charbon always pass from the mother to the fœtus; that the longer the time that elapsed between the inoculation of the pregnant mother and her death, the more numerous were the microbes in the fœtus; that more bacilli from virulent cultivations pass over than from an attenuated virus; that pathological conditions of the membranes of the placenta and fœtus hindered the passage of the bacilli from the mother to the fœtus; that inoculation of pregnant females with a too powerful vaccine nearly always caused the death of the fœtus; that inoculation with a virulent virus after the mother had been protected by satisfactory vaccination nearly always killed the fœtus—in other words, the fœtus cannot be protected by maternal vaccination.—*Lancet.*

THE LATE PROFESSOR PACINI.—A committee has been formed at Florence for the purpose of collecting subscriptions for a memorial to the late Professor Pacini. It has issued a circular which contains the following statement: "Honor to the memory of a great citizen, destined to remind posterity of his virtues and his labors, is a duty which the nation that gave him birth is bound to discharge. From such men proceeds an example which acts as a noble oration, preaching great deeds to future generations. Italy has such a duty to perform in memory of Philip Pacini, who discovered the tactile corpuscles, who, since 1854, has devoted himself to profound and original researches on the specific nature of Asiatic cholera, and who has introduced a method of artificial respiration, which repeated experiments have proved to be the best for saving life. It is for Italians, then, to perpetuate the fame of this man, who, springing from a humble origin, has succeeded by force of will, in gaining universal renown in anatomy and biology; who, after a life of exemplary activity, in the course of which he never thought of his own interests, but rather considered the welfare of humanity, died poor, leaving to his successors nought but certain precious documents of high merit, such as the 'Structure of the Retina,' 'The Electrical Organ of the Gymnotus,' and 'The Extra-vascular Circulation of the Blood.'" The subscribers to the memorial will be informed of its nature, which will be decided upon when the entire subscriptions are received.—*Brit. Med. Journal.*

KENTUCKY GIANTS.—The last census shows that Kentucky has the tallest men and women in the world. The immense stature of Kentuckians may be accounted for when it is understood that Kentuckians have the best food and drink in the world. The best in a physiological sense, because it contains all the materials in great abundance for the development of the osseous system. Our lime water and blue grass furnish to our cattle the best food and drink that can be obtained, and in return it is expected that our beef is of a superior quality; hence the size of our people is readily accounted for when the question of food is investigated. The superior quality of horseflesh that is found in Kentucky can be accounted for in the same way.—*Med. Herald.*

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MEDICAL NEWS.

A SUCCESSFUL LITHOTOMY.—Dr. C. H. Wilkinson, of Galveston, Texas, Surgeon in Charge of St. Mary's Infirmary in that city, on the 29th of August, removed very successfully by lithotomy a stone weighing 595 grains from the bladder of a lad of sixteen, and the patient made a rapid recovery.

THE CHOLERA IN PALERMO.—During the latter part of September cholera broke out with great violence at Palermo, Sicily; but since then the disease has to a large extent abated. In four days the mortality rose from 3 to 185, and a panic was created. Thirty thousand persons fled from the city, the shops were closed, and the streets were almost deserted. King Humbert, with noble generosity, sent $10,000 to be distributed among the sufferers, and placed his Villa Favorita at the disposal of the authorities for hospital purposes. He also sent a dispatch expressing his sympathy for the afflicted people, and exhorting them to show their courage and calmness in the trying ordeal through which they were called to pass.

THE SOCIETY OF MEDICAL JURISPRUDENCE AND STATE MEDICINE, OF NEW YORK, held its first meeting after the summer vacation on September 17, when Charles F. Wingate, Esq., the well-known Sanitary Engineer, read a paper on some of the sanitary problems of the city.

RULES OF THE INTERNATIONAL MEDICAL CONGRESS.—The following are the rules, in full, which were adopted by the Committee of Arrangements for the meeting of the International Medical Congress in America, in 1887, at its recent meeting in this city:

1. The Congress shall consist of members of the regular profession of medicine, who shall have inscribed their names on the register and shall have taken out their tickets of admission; and of such other scientific men as the Executive Committee of the Congress may see fit to admit.

2. The dues for members of the Congress shall be ten dollars each for members residing in the United States.

There shall be no dues for members residing in foreign countries.

Each member of the Congress shall be entitled to receive a copy of the "Transactions" for 1887.

3. The Congress shall be divided as follows, into seventeen sections:

I. General Medicine.
II. General Surgery.
III. Military and Naval Surgery.
IV. Obstetrics.
V. Gynæcology.
VI. Therapeutics and Materia Medica.
VII. Anatomy.
VIII. Physiology.
IX. Pathology.
X. Diseases of Children.
XI. Ophthalmology.
XII. Otology and Laryngology.
XIII. Dermatology and Syphilis.
XIV. Public and International Hygiene.
XV. Collective Investigation, Nomenclature, Vital Statistics, and Climatology.
XVI. Psychological Medicine and Diseases of the Nervous System.
XVII. Dental and Oral Surgery.

4. The General Meetings of the Congress shall be for the transaction of business and for addresses and communications of general scientific interest.

5. Questions and topics that have been agreed upon for discussion in the

Sections shall be introduced by members previously designated by the titular officers of each Section. Members who shall have been appointed to open discussions shall present in advance statements of the conclusions which they have formed as a basis for debate.

6. Brief abstracts of papers to be read in the sections shall be sent to the Secretaries of the proper Sections on or before April 30, 1887. These abstracts shall be treated as confidential communications, and shall not be published before the meeting of the Congress.

Papers relating to topics not included in the lists of subjects proposed by the Officers of the Sections may be accepted after April 30, 1887; and any member wishing to introduce a topic not on the regular lists of subjects for discussion, shall give notice of the same to the Secretary-General, at least twenty-one days before the opening of the Congress, and such notices shall be promptly transmitted by the Secretary-General to the Presidents of the proper Sections. The titular officer of each Section shall decide as to the acceptance of such proposed communications and the time for their presentation.

7. All formal addresses, scientific communications, and papers presented, and scientific discussions held at the general meetings of the Congress, shall be promptly given in writing to the Secretary-General; and all papers presented and discussions held at the meetings of the Sections shall be promptly given in writing to the secretaries of the proper Sections.

No communication shall be received which has already been published, or read before a society.

The Executive Committee, after the final adjournment of the Congress, shall direct the editing and the publication of its "Transactions," and shall have full power to publish the papers presented and the discussions held thereon, either in full, in part, or in abstract, as in the judgment of the Committee may be deemed best.

8. The official languages of the Congress shall be English, French, and German.

In the meetings of the Sections, no member shall be allowed to speak for more than ten minutes, with the exception of the readers of papers and those who introduce subjects for discussion, who may each occupy twenty minutes.

9. The rules and programmes shall be published in English, French, and German.

Each paper and address shall be printed in the "Transactions" in the language in which it was presented, and preliminary abstracts of papers and addresses also shall be printed, each in the language in which it is to be delivered.

All discussions shall be printed in English.

10. The President of the Congress, the Secretary-General, the Treasurer, the Chairman of the Finance Committee, and the Presidents of the Sections, shall together constitute an Executive Committee of the Congress, which Committee shall direct the business of the Congress, shall authorize all expenditures for the immediate purposes of the Congress, shall supervise and audit the accounts of the treasurer, and shall fill all vacancies in the offices of the Congress and of the Sections. This Committee shall have power to add to its membership, but the total number of members shall not exceed thirty. A number equal to one-third of the members of the Committee shall constitute a quorum for the transaction of business.

11. The officers of the Congress shall be a President, Vice-Presidents, a Secretary-General, four Associate Secretaries, one of whom shall be the French

Secretary, and one of whom shall be the German Secretary, a Treasurer, and the Chairman of the Finance Committee.

12. The officers of each Section shall be a President, Vice-Presidents, Secretaries, and a Council.

13. The officers of the Congress and the officers of the Sections shall be nominated to the Congress at the opening of its first session.

14. The Executive Committee shall, at some convenient time before the meeting of the Congress, prepare a list of foreign Vice-Presidents of the Congress and foreign Vice-Presidents of the Sections, to be nominated to the Congress at the opening of its first session.

15. There shall be a standing Committee on Finance, composed of one representative from each State and Territory, the District of Columbia, the Medical Department of the Army, the Medical Department of the Navy, and the Marine Hospital Service.

The chairman of the Finance Committee shall report to the Executive Committee of the Congress.

Each member of the Finance Committee shall appoint a local Finance Committee for his State, Territory, District, or Government Department, consisting of one or more members from each Government Department or Congressional District.

Each local Finance Committee shall report through its chairman to the chairman of the Finance Committee of the Congress

THE COMMITTEE FOR COLLECTIVE INVESTIGATION OF DISEASE OF THE INTERNATIONAL MEDICAL CONGRESS OF 1884.—A pamphlet has been issued which, besides a memorandum on the inquiry instituted by the above committee, and a series of questions in regard to each of the diseases, contains the following form of preliminary inquiry into the prevalence of Rickets, Acute Rheumatism, Chorea, Cancer, and Urinary Calculus in different regions:

The International Committee for Collective Investigation, desiring to make inquiry into the Geographical Distribution and Etiology of the above diseases, will be greatly obliged by your answering the following preliminary questions, and returning the paper on the first of January, 1887, to A. JACOBI, M.D., 110 West 34th Street, New York.

ARE THE FOLLOWING DISEASES, or any of them, COMMON IN YOUR DISTRICT, that is, would a medical man in average practice in it be likely to meet with, on the average, a case a year?

	ANSWER.
Rickets—Bent Bones, usually the Leg Bones, accompanied often with enlargement of the lower end of the Radius and the Sternal Ends of the Ribs. - - - - - - - -	
Acute Rheumatism—including the so-called "sub-acute" variety. - - - - - - -	
Chorea - - - - - - - - - - - - - -	
Cancer ("*Malignant Disease*") - - - -	
Urinary Calculus - - - - - - - - - -	

Observer's Name......................................

....

Residence..

The Committee will, further, be much obliged if you will give them information respecting the general features of the locality. For instance, whether it is *town* or *country ;* whether high or low, on a height, in a hollow or level; whether open or *shut in* by trees or hills; whether *damp* or *dry ;* if town, whether it is *densely peopled,* or no. The Committee will also be glad to receive any information you can give them as to the general *Dietary* of the children and of the adults in the district.

A FATAL DOSE OF MORPHIA.—Dr. Frank M. Musser, a prominent young physician of Lancaster, Pa., died at his home in that city September 12, from the effects of morphia poisoning, the drug being administered hypodermically by himself, for the relief of neuralgia. About a month previously Dr. Musser fell from a hammock, injuring his spine, and it is the opinion of his medical friends that the fatal issue was due to the peculiar condition of the brain and nervous system induced by this fall, the dose apparently having been only an ordinary one.

A FATAL CASE OF CHOLERA ON A VESSEL COMING FROM MARSEILLES TO NEW YORK.—On the Italian Bark Excelsior, which arrived at this port from Marseilles on the 28th of September, one of the crew died from cholera during the voyage. He was taken on the third day out, and was ill only twenty-four hours. The vessel was thoroughly fumigated, and no other cases occurred.

THE CHOLERA IN SPAIN.—On the first day of October there were reported throughout Spain 490 new cases of cholera, and 176 deaths from the disease.

MEDICAL SOCIETY OF VIRGINIA.—The sixteenth annual meeting was held at Alleghany Springs, Montgomery County, September 15, 16, and 17. The annual address was delivered by Dr. H. M. Clarkson, of Haymarket, on Medical Societies; their Relations to the Public. Dr. Isaac White, of Alleghany Springs, read a paper on The Medicinal Properties of Alleghany Springs Water. Dr. Wm. C. Dabney, President, read the Report of the State Board of Medical Examiners, which showed that thirty-two candidates have passed satisfactory examinations since January 1, 1885, while six have been rejected. All were college graduates. The President of the Society, Dr. S. K. Jackson, of Norfolk, delivered the President's Address. A discussion on scarlet fever was opened with a paper by Dr. T. A. Moore, of Richmond, and was participated in by Drs. Bedford Brown, R. I. Hicks, Alexander Harris, C. T. Lewis, J. F. Winn, L. Lankford, J. H. Claiborne, W. L. Robinson, W. W. Parker, M. A. Wilson, H. T. Nelson, S. K. Jackson, W. L. Broaddus, John Grammer, and W. D. Cooper. Among the other papers read were, Report on Chemistry, Materia Medica, and Therapeutics, by Dr. M. G. Ellzey ; Report on Advances in Obstetrics and Diseases of Women and Children, by Dr. S. W. Dickinson ; Treatment of Lacerations of the Os and Cervix Uteri without Surgical Operation by Dr. Bedford Brown ; Puerperal Septicæmia, by Dr. Geo. T. Harrison, of New York ; Report on Advances in Surgery, by H. G. Latham ; Report on Advances in the Practice of Medicine, by Dr. Rives Tatem ; Clinical Notes on Carcinomatous Affections of the Digestive Organs, by Dr. R. C. Powell ; The Physiological and Therapeutic Action of Antipyrine, by Dr. Wm. C. Dabney ; Dyspepsia and Neurasthenia, by Dr. M. L. James ; and the Evils of Inhumation and Advantages of Cremation, by Dr. J. E. Chanceller. Dr. W. D. Turner, on behalf of the committee appointed to consider the subject, reported in favor of a petition for the enactment of a law to regulate the practice of pharmacy. Dr. Edwards announced the sudden death of Dr. Wm. H. Coggeshall, of Richmond, on the 7th of September, and at the unanimous request of the society, read the report which he had prepared just before his death on The Recent Plymouth Epidemic and the Lessons it Teaches. The following officers were elected for the ensuing year:

President.—Dr. Rawley W. Martin, of Chatham.

Vice-Presidents.—Drs. John S. Apperson, of Town House; T. B. Greer, of Rocky Mount; H. M. D. Martin, of Fredericksburg.

Recording Secretary.—Dr. Landon B. Edwards, of Richmond.

Corresponding Secretary.—Dr. John F. Winn, of Richmond.

Treasurer.—Dr. R. T. Styll, of Richmond.

Dr. Hugh T. Nelson to deliver address to public and profession, 1886.

Place of next meeting.—Fredericksburg.

After the last session the Society was entertained at a banquet tendered by the proprietor of the hotel where the meeting was held, Capt. C. A. Colhoun.

AMERICAN GYNÆCOLOGICAL SOCIETY.—The tenth annual meeting was held at Washington, D. C., Septemper 22, 23, and 24, with the President, Dr. W. T. Howard, of Baltimore, in the chair. Among the papers read were the following: The Natural Hygiene of Child-bearing Life, by Dr. S. C. Busey, of Washington; Puerperal Diphtheria, by Dr. H. J. Garrigues, of New York; Four Cases of Oöphorectomy, with Remarks, by Dr. J. T. Johnson, of Washington; The Care of the Perineum during Labor, by Dr. T. A. Reamy, of Cincinnati; A Case of Cæsarian Section, by Dr. E. W. Jenks, of Detroit; the Use of Tarnier's Forceps, by Dr. Elwood Wilson, of Philadelphia; Inflammation of the Parotid Glands Following Operations upon the Female Genital Organs, by Dr. William Goodell, of Philadelphia; Peristalsis of the Genital Tract, by Dr. J. R. Chadwick, of Boston; Facial Paralysis in the Infant from the use of the Obstetric Forceps, by Dr. T. Parvin, of Philadelphia. The following officers were elected for the ensuing year: President, Dr. T. A. Reamy, of Cincinnati; Vice-Presidents, Drs. T. Parvin, of Philadelphia, and G. J. Engleman of St. Louis; Secretary, Dr. J. T. Johnson, of Washington; Treasurer, Dr. M. D. Mann, of Buffalo. Baltimore was selected as the next place of meeting.

THE MISSISSIPPI VALLEY MEDICAL SOCIETY held its eleventh annual meeting at Evansville, Ind., September 8, 9, and 10, the President, Dr. F. W. Beard, of Vincennes, Ind., in the chair. Among the papers read were the following: Perineal Section, without a Guide, for Urethral Stricture, by Dr. J. E. Sutcliffe, of Indianapolis; Puerperal Fever and Puerperal Septicæmia, by Dr. G. B. Walker, of Evansville, Ind.; Intracranial Cephalhæmatoma, by Dr. S. S. McKee, of Cincinnati; The Cocoaine Habit, by Dr. L. Bauer, of St. Louis, and Cholicystotomy, by Dr. A. C. Bernays, of St. Louis. The following officers were elected: President, Dr. A. Dixon, of Henderson, Ky.; Vice-Presidents, Drs. G. W. Burton, of Mitchell, Ind., T. D. Washburn, of Hillsboro, Ill., and William Cheatham, of Louisville, Ky.; Secretary, Dr. H. J. B. Wright, of Olney, Ill.

DEATH OF DR. JOHN L. ATLEE.—John Light Atlee, M.D., the oldest and one of the most eminent physicians in Pennsylvania, died at his home in Lancaster October 1st, in the eighty-sixth year of his age. Dr. Atlee was born in Lancaster on Nov. 2, 1799, and was the son of Col. William Pitt Atlee, a Revolutionary officer. He was educated in Lancaster and Philadelphia, studied medicine under Dr. Samuel Humes, and graduated from the University of Pennsylvania in Philadelphia in 1820. After graduating he began to practice in Lancaster, and soon won a high reputation as a surgeon. Dr. Atlee's operation for double ovariotomy in 1843 was the first in the history of medicine, and the patient is still living in Lancaster in good health. He was one of the founders of the Lancaster City and County Medical Society in 1843, and twice served as President. In 1848 he assisted in organizing the Pennsylvania State Medical Society, and became its President in 1857. He was also one of the organizers of the American Medical Association in Philadelphia in 1857, was elected Vice-President in 1865, and President in 1882. He was Professor of Anatomy and Physiology in Franklin and Marshall College for many years; was School Director for forty years; was President of the Board of Trustees of the Pennsylvania State Lunatic Asylum at Harrisburg; was associate member of the College of Physicians, Philadelphia; was elected honorary Fellow of the American Gynæcological Society in 1877, and was Trustee of numerous public institutions. He was for many years a distinguished contributor to current medical literature. His children are Dr. Walter F. Atlee, of Philadelphia; W. Augustus Atlee, and Miss Annie F. Atlee, of Lancaster.

A FARM FOR THE INSANE POOR OF NEW YORK.—The Commissioners of Charities and Correction of this city have purchased 880 acres of land near Central Islip, Long Island, to be used as a farm for the insane under their care.

THE SMALL-POX AT MONTREAL.—Small-Pox still continues to prevail to an alarming and increasing extent in Montreal, and on the 28th of September there was a serious anti-vaccination riot there among the ignorant and superstitious French-speaking population, which necessitated the calling out of the military. It is estimated that considerably over 1,000 deaths have occurred from the disease since the beginning of the outbreak, and that there are at present at least 3,500 cases in the city.

THE EXECUTIVE COMMITTEE OF THE NINTH INTERNATIONAL MEDICAL CONGRESS.—The first meeting of this committee, consisting of the general officers of the preliminary organization of the Congress and the Presidents of the Sections, was held in New York, September 24. 1885. More than a quorum of the members of the committee were present, consisting of the President, Prof. Austin Flint; Treasurer, E. S. F. Arnold, M.D., M.R.S.C.; Chairman of the Finance Committee, Prof. Frederick S. Dennis; President of the Section of General Medicine, Prof. Abram B. Arnold; President of the Section of General Surgery, Prof. Wm. T. Briggs; President of the Section of Military and Naval Medicine and Surgery, Prof. Henry H. Smith; President of the Section of Diseases of Children, Prof. J. Lewis Smith; President of the Section of Anatomy, Prof. Wm. H. Pancoast: President of the Section of Collective Investigation, Vital Statistics and Climatology, Henry O. Marcy, A.M., M.D.; President of the Section of Dermatology and Syphilis, Prof. A. R. Robinson. The committee was organized by the election of Henry H. Smith, of Philadelphia, as Chairman, and F. S. Dennis, of New York, as Secretary *pro tem.* After a free inter-change of views, Prof. Frederick S. Dennis was appointed Associate Secretary-General, and another appointed to the chairmanship of the Finance Committee. The President, the Secretary-General, and the Associate Secretary-General were instructed to issue a circular announcing the Preliminary Organization of the Congress and the rules adopted for its membership and government. To prevent all further misunderstanding, both at home and abroad, the committee unanimously adopted the following resolution:

Resolved, That this Executive Committee enters upon the management of the affairs of the Ninth International Medical Congress with the understanding that, in accordance with rule No. 10, its powers are not restricted except by the rules and regulations adopted Sept. 3, 1885, by the Committee of Arrangements appointed by the American Medical Association in April, 1885; and that the actions of this Executive Committee are final, not being subject to revision, amendment or alteration by either the Committee of Arrangements or the American Medical Association.—*Journal of American Medical Association.*

A WISE MEASURE.—The United States Government has determined to send a medical expert to Europe, for the purpose of investigating the cholera, and has made an admirable appointment in selecting Dr. E. O. Shakespeare, of Philadelphia, for the position. It is, to be sure, rather late for this sort of thing, but, "better late than never."

EDITORIALS.

THE REPORT OF THE COMMITTEE ON SCHOOL HYGIENE IN TENNESSEE.—This report, written by Dr. Daniel F. Wright, of Clarksville, Chairman of the Committee, is a most excellent document, and has, very properly, been reprinted from the general report of the State Board of Health, in order that it might be more widely circulated. Information such as is contained in this pamphlet cannot be too extensively diffused among the people, and under any circumstances it can hardly fail to accomplish much good.

Dr. Clark commences by saying, very truly, that for good or for evil, the constitution of most persons is determined for life by the events within the average child's school days, say between the seventh and fourteenth year of life, or, to speak physiologically, between the second teething and the age of puberty. Prior to this period, especially up to the fifth year, the child has a struggle for life or death with maladies affecting chiefly the digestive organs; but from this time on to that of adult life, the nervous system is that which, for good or for evil, is most liable to be affected by the events of what may be called the scholastic period of life. He then states that he finds this critical and interesting period in life to have been less thoroughly treated by systematic medical writers than any other. Text-books on the diseases of children are generally based upon observations made in child-hospitals, which are almost entirely occupied by patients under five years old, and by these works comparatively little has been added to our knowledge since the publication of the great classic of Barthez and Rilliet, which has been the foundation of all the pædiatric literature of more recent times; while the experience of those eminent men was acquired in the *Hôpital des Enfants Trouvés*, of Paris, where the fifth year is seldom reached. For this reason he deems it advisable to prefix to his report some observations on the morbid tendencies of the school age.

Maintaining, as he does, then, that the special tendency of the constitution during the time of school-life is to diseases of the nervous system, and that ill-judged school discipline is calculated so far to promote such disorders as frequently to impress on the constitution lesions which appear in multifarious forms in after-life, he brings forth, in confirmation of his views, a number of establised pathological facts relating to the occurrence of various diseases during the period in question; premising, however, that when the disorders thus caused fall short of actual disease, they often leave behind them moral and intellectual infirmities, generally attributed to original defects of character, but in reality attributable to thoughtless mismanagement during education. The three affections to which he particularly refers are, epilepsy, chorea, and asthma. Epilepsy, when it occurs in childhood at all, is observed most frequently to make its first appearance at the period of second dentition, though when it does so, it is generally found on inquiry that convulsions have attended the first teething, and perhaps been repeated occasionally in the interval. When this is the history, many good practitioners have learned to recognize in the first infantile convulsions the manifestation of the original vice in the nervous organization, which in after life may develop into epilepsy proper, and it can be readily seen with what exceptional care the training of such a child should be watched.

Chorea is emphatically a disease of the school-days period of life. It is true that it may occur as early as the second year, but rarely before the seventh, and as rarely does it persist beyond the period when the sexual functions are fully developed. At that period, if not followed by partial paralysis, which does not often happen, it is very liable to be replaced by hysteria in females, and rheumatism in both sexes. Asthma in the young is a nervous disease affecting specially the pneumogastric system, and it very generally terminates in full recovery at the completion of pubescence, when the last medicine given gets the credit of the cure, especially if it be a quack nostrum. Dr. Wright alludes, in passing, to the various disorders of the nervous system, such as squinting, near-sightedness, stammering, etc., which are almost always acquired during the scholastic age; and he calls attention to the fact that the last two infirmities are almost exclusively incidental to educated people, as is the first also (squinting), when it is an acquired affection, independent of structural lesions. Sensation and motion, intellectual and emotional action, are the functions of the brain and nerves, and are also the media through which these receive benefit or injury; and all these are specially dealt with in school life.

The capacity for both mental and bodily exertion being different at different ages, the work to be done must be apportioned accordingly. The following estimates have been given as to the length of time which can healthfully be assigned *per diem* to study and recitations at different ages:

Age in years.	Hours for study and recreation.
Below seven	2½ to 3
Seven to ten	3 to 3½
Ten to twelve	4
Twelve to seventeen	5 to 6.

School directors of Tennessee, Dr. Wright thinks, will look upon this schedule with surprise; and in this connection he takes up the much controverted question of the single or double sessions. While in the country, where the population is sparse, and many of the pupils travel several miles to reach the schoolhouse, it is clear that there is no choice, the children must be taught all they can learn in a limited time and sent home; in cities, where they are all on the spot, he is satisfied that, at least while the days are long enough, a session of three hours in the morning and two in the afternoon, with an interval of at least two hours between the two, will produce more brain work with less exhaustion of the brain than can be crowded without injury into the space of a single session. There can be little doubt that the brain will do more work without injury when the hours of study are separated by a considerable interval of recreation than when they proceed uninterruptedly, or with but brief interruptions.

Dr. Wright recognizes to the fullest extent the need of the greatest care and watchfulness as regards young people at the age of puberty. This he believes requires as careful and considerate school treatment as that of early childhood. The nervous system has much to do at that period outside of school work, and much evil arises from pushing it with extra studies. At that age a more rapid bodily development takes place than at any other subsequent to infancy, and, moreover, the sexual system, hitherto dormant, comes into activity. All this occasions a vast expenditure of nerve force, and if this be diverted from its proper office, and applied to laborious and long-continued study, great exhaustion results without the due fulfilment of either function.

"So enormous," he says, "is the evil done by exorbitant demands on the mental faculties, of a girl particularly; so many are prevented from attaining a womanhood competent for its onerous duties; so many promising girls have dwindled into feeble, helpless women, incapable of either happiness or usefulness in married life, that it would be an indefensible default on my part, in the duty I have undertaken, if I were to use inadequate or even measured language on the subject; words too strong cannot be applied to it. In every school attended by girls there ought to be a prudent and experienced lady, married if possible, or one who has been married, to whom each girl, as she approaches the age of puberty, should be required to report once a month—not merely allowed, but required—and it should be the duty of this lady to report to the superintendent at every menstrual period that such girl is under the rules. Nothing but this need to be stated to any one, except to the lady in question; she is simply under the rules, and these rules should be as follows: [I quote from an excellent treatise in Buck's encyclopædic work on Hygiene, by D. F. Lincoln, M.D.] 'Each scholar, on thus notifying her matron, is excused from going to the blackboard to stand for work, from standing in recitations, from going up and down stairs to recite in special studies, and especially from going downstairs to work in the chemical laboratory.' It is added that schoolhouses attended by girls should not be built of more than two stories, if it can be avoided. That is well for general rules, but, in addition to this, much individual vigilance is demanded. Headache, a feverish flush, a tendency to fainting, should be instantly noticed and the pupil excused from work for that day. There are writers who go so far (and I doubt whether it is too far) as to advise that every girl, at the commencement of each menstrual period, should be excused from attendance at school at all. I am not blind to the many objections which will be raised to these proposals; objections against the resulting irregularity and interruption of systematic instruction; objections against the door opened to malingering for the purpose of idleness; and, finally, objections regarding the remarks which would be made by the pupils of the other sex upon these periodic exemptions. I foresee them all, and acknowledge that I am unprepared to meet and obviate them. But if they cannot be obviated, does not the whole subject suggest very serious considerations as to the expediency of mixed schools? I have no doubt of their advantage for pupils of both sexes up to twelve years of age, but I have had growing misgivings for some time as to the co-education of the sexes after this period. The physical treatment required at this critical time of life is so different that I doubt whether it can be successfully carried out with due regard to the well-being of both. I am here directly opposed to the present tendency of public opinion, but I apprehend my duty in my present position to be that of influencing public opinion, if possible, rather than of being influenced by it."

Boys, also, he thinks need special treatment at the age of puberty, a careful vigilance only less in degree than that demanded for the other sex. Probably every teacher of experience could mention cases of boys who were good scholars up to fourteen years old, bright and industrious, becoming suddenly listless and sluggish in their exercises, even stupid and totally destitute of energy. The average teacher who can see nothing beyond his weekly reports, now considers that he has to deal with sudden perversity, and he puts the spurs to his supposed refractory scholar; perhaps it is the rod, or he may try to shame him into emulation by showing that younger boys are outstripping him, or, worse still, he may try to goad him with sarcastic and contemptuous taunts—and all in vain. Either the boy meets it all with stubborn resistance (which for his physique is the best thing he can do), or he is spurred into futile and painful efforts; as a result of which come headaches, or he has to go home with a low fever, and then the drains and sewage-connections are examined for a cause, while the real evil is the injudicious forcing of a brain and nerves inadequate for the time to the burden imposed upon them.

Turning to the subject of stimulus, which in some form is an indispensable agency in school work, Dr. Wright passes in review the following methods of stimulating pupils: corporal punishment, keeping in, and emulation or competition. From a hygienic point of view, he believes the first to be immeasurably preferable to the second. Under the head of emulation he discovers two modes of competition; first the excitement of conflicting ambitions, which he believes to be especially dangerous among the older girls, as being the most futile source of nervous disorder, and, second, the incessant push to keep scholars up with the studies of their grades, which takes effect upon the larger number, and is, in fact, the chief motor which keeps the whole in activity. It differs from the other in this, that the exciting motive in the one is the hope of getting ahead, in the other the fear of falling behind. Here, he finds, comes in that peculiar state of mind, now thoroughly recognized by nervous pathologists and called by them worry, and worry is undoubtedly the prevailing trouble of large schools in which the machine is worked with the vigor and energy characteristic of the modern public school system. In this connection he calls attention to the effects of this "storm and stress" in our school system upon the teachers as well as the scholars. "Let it be remembered," he says, "that almost all the teachers in our public schools, except the superintendents, are now females. I believe it will be found that a truly healthy person among them is the exception, rather than the rule; at least if the observation is made in June, towards the close of the session's work. Nor can it be considered an accidental coincidence that, in this State, an ex-State superintendent and the existing superintendent of the largest city schools in the State are palsied men."

The errors out of which these evils spring are to be comprised under two heads: first, not enough teachers for the number of scholars, and, second, too much teaching crowded into too short a time. But he can only point out the evil. To suggest the remedy he fears "would be to overhaul the whole fabric of our existing school system." Further on, however, he does venture to recapitulate the leading reforms which he thinks should be aimed at, as follows:

First: To separate the treatment of very young children entirely from the general system, assigning them to ladies who combine the qualities of a tender mother with those of an enlightened teacher.

Second: To increase the number of teachers in proportion to that of pupils, so as to render some discrimination possible, some attention to diversity of character.

Third: To lengthen the recess and provide opportunity for systematic bodily exercise.

Fourth: To separate the sexes after the age of thirteen.

The remainder of this admirable report, which is worthy the attention of all who are interested in the education of the young, not only in Tennessee, but throughout the length and breadth of the land, is devoted to the following topics: Exercise—gymnastics; infectious diseases; hygiene of the school; building and premises; respiration; lighting—effects on vision. In the postscript the author refers to the official statement made by Dr. Chrichton Browne, on the sanitary condition of fourteen government schools in London, in which the main point dwelt upon is overpressure in elementary schools, and in which the results of his own observations in American schools are abundantly confirmed.

To the main report is added an appendix containing the report of a sanitary inspection of the public schools in all the principal cities in Tennessee, which shows that the greatest defect, as is the case in all cities and large towns throughout the country, is overcrowding. To remedy this, Dr. Wright suggests the raising of the school age from six to eight years, and the abolition of the high schools; the other alternative being to double the school tax. The principal needs of the city schools which he has visited, he recounts as follows:

"First: Special means of heating independent of stoves.

"Second: Closely associated with this, and mainly dependent on it, special provision for ventilation, independent of windows.

"Third: Larger play-grounds, or in defect of these, provisions for gymnastic exercise.

"Fourth: A dinner recess of three hours.

"Fifth: Smaller number of scholars to a teacher in the primary and grammar schools.

"Sixth: Careful provision for the removal of excrement.

"Seventh: Above all, MORE SPACE.

"And all these things require money."

MORE FAITH CURES.—At the present time one frequently reads of cases like the following, the account of which is taken from one of the daily papers:

"*Reading, Pa.*, Sept. 20.—The particulars of a remarkable cure by the laying on of hands comes from Lancaster Township, Lancaster County. Miss Clara Lintner, an only daughter of wealthy parents, was afflicted with spinal disease. Her case was considered hopeless. She was confined to bed unable to move. Twelve physicians were tried, including many from New York and Philadelphia, but none afforded her any relief. She was then induced to try a cure by the laying on of hands. No medicine was administered. She almost immediately sat up, much to her own surprise and that of her friends, and she then arose and walked about. She considers herself cured. She goes out riding, and attends to household duties. People flock to the house from far and near to confirm what they have heard."

It is a noteworthy fact that these wonderful cures of incurable "spinal disease" almost invariably occur in a certain class of females, generally in the earlier years of womanhood, whom Professor Thomas has very aptly designated as "social vampires," because they prey upon the sympathies and exact the unremitting devotion of everybody around them. If the families to which they belong are in moderate circumstances, especially do they become an insufferable burden upon the household, for they require the most constant attention and waiting upon, and their every whim must be instantly gratified, however great the expense or the time and labor involved. In this kind of sham paralysis, setting the house on fire would bring about a more speedy cure than even the laying on of hands.

When there is really any serious disease in those claimed to have been healed by the faith cure, they unfortunately do not stay "cured," as is shown in the following clipping from the *San Francisco Chronicle:*

"Mrs Rider, whose name has been widely mentioned in this State as a remarkable instance of the faith cure, died recently at Grass Valley, and the post-mortem showed the presence of a large tumor in the abdominal cavity and a badly diseased condition of both heart and lungs."

WHY TOULON SUFFERED FROM A SECOND VISITATION OF CHOLERA—It is not to be wondered at that the Asiatic scourge visited the city of Toulon again this year when we read of the condition during the past summer of the Maritime Hospital, a national institution located there. There was under the building a cesspool which, it is stated, had not been emptied for one hundred and one years, and which is 140 feet long, six feet wide, and five feet deep. When the authorities finally set about cleaning it, it took the scavengers twenty-three days to accomplish the task. Then, there were under the hospital other cesspools which contained the accumulation of a century, and there were no traps in the plumbing arrangements; while the overflow from the pools found its way into the street gutters. When this was the condition of an institution supported by the State and devoted to the care of the sick, it is hardly to be supposed that that of the city in general was any more salubrious. It is also a significant fact that when such plague-spots as that described had been placed in a better sanitary condition, the disease quickly abated.

TROUBLE IN STORE FOR BACHELORS.—Whether the bill introduced a short time since in the Georgia Legislature by Mr. Connell, of Decatur County, shall become a law or not, it is scarcely likely that, for the next three years, at all events, such an act could secure the signature of the Governor of this State, since both the present Democratic and Republican candidates for that office are bachelors. The text of it reads as follows:

A bill to be entitled an act to prohibit the evil of too many old bachelors in the State of Georgia, and for other purposes.

SECTION 1. Be it enacted by the General Assembly of the State of Georgia, now convened, that from and after the passage of this act all male inhabitants of this State who have arrived at the age of thirty years, and who have never married, shall be taxed $2.50 per annum for the enjoyment of this unmarried state, and each year so long as they shall enjoy the enviable position in life of single blessedness.

SEC. 2. Be it enacted by the authority aforesaid that the taxes so collected shall be appropriated to the school fund in the county where the old bachelor paying said tax may reside, in order to pay the tuition of children who have no fathers, and that said taxes shall be collected in the same manner that poll taxes are collected.

SEC. 3. Be it further enacted by the authority aforesaid: That any old bachelor falling under the provisions of this act shall be relieved from this extra tax by marrying. And the good ladies of our good and grand old Commonwealth are hereby earnestly requested to join the reformers and moralists of the country in order to correct this most monstrous and ruinous evil which now stalks abroad in our sunny South and would-be virtuous land.

SECTION 4 repeals all conflicting laws.

THE ETIOLOGY AND NATURE OF MALARIA.—The series of interesting papers on the subject of malaria by Dr. Griswold, of Rocky Hill, Conn., and Dr. Anderson, of Norfolk, Va., which was commenced in the August number, will be continued in the November number of the JOURNAL, and the editor will be very happy to receive other communications upon the same topic from gentlemen in various parts of the country.

THE NOVEMBER NUMBER will also contain among its original articles the following: Obscure Impediments of the Intestinal Canal, by Prof. J. Mc.F. Gaston, of Atlanta, Ga., and Intussusception or Intestinal Invagination, by Dr. C. S. Wood, of New York.

SPECIAL NOTICE.—All physicians subscribing now for this journal for 1886, will receive the October, November, and December numbers for 1885 free of cost. The subscribers will confer a favor by making this fact generally known.

NOTICE.—The editor wishes it to be distinctly understood that he does not hold himself personally responsible for the opinions expressed in any articles published in the JOURNAL, with the exception of those which appear in the editorial department, or those which are expressly endorsed by editorial comment in other departments.

TO OUR CONTRIBUTORS AND EXCHANGES.—All communications to the editor, as well as all exchanges and books for reviews, should be addressed to 22 West 31st Street, New York. Business letters should be sent to the publisher's address, P. O. Box 1124.

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ORIGINAL ARTICLES.

ARTICLE I.

OBSCURE IMPEDIMENTS OF THE INTESTINAL CANAL. By J. McF. Gaston, M.D., Professor of Surgery in the Southern Medical College, Atlanta, Georgia.

When it is considered that a tortuous canal, varying from thirty to thirty-five feet in length, is concerned in the secernent and excrementa processes of the body, we may understand the grave troubles growing out of suspension of intestinal action. The healthy performance of the various vital functions, and the proper development of the organism, depend to a large extent upon the proper working of the small and large intestines. Any interruption to the ordinary course of the contents of the alimentary canal brings serious disturbance of the health, and temporary occlusion, arresting or reversing the normal peristaltic movements, is followed by local and general disorders of vast importance. The consequences of such lets and hindrances to the proper performance of the functions of the intestines vary greatly in intensity from the nature of the impediment. It may be simply spasmodic, as in colic, or it may consist in constriction of one part by another, as in intussusception and hernia, or it may result from a twist in the gut with folds of adjacent tissues occluding it. Again, there may be bands resulting from inflammation, which obstruct to a greater or less extent the intestinal tract, or an impediment may exist from the deposition of fibrinous indurations in the walls of the canal, with contraction of its lumen constituting an organic stenosis. Mechanical obstruction from impacted fæces, from gall-stones, and from foreign bodies that have been swallowed, may also occur.

This paper will be limited to the consideration of acute, non-malignant obstructions of the intestinal canal. As the degeneration of malignant disease entails consequences upon the general health entirely different from the effects of ordinary inflammatary conditions, and the chronic constrictions of the walls of the bowel call for modes of exploration quite distinct from temporary stoppage of the intestinal tract, they are not included in my inquiry.

The diagnosis of impediments to the ordinary regular movement in the intestinal tube is always attended with difficulty when no objective phenomena are presented for locating the seat of obstruction ; and it has so turned out in my sphere of observation latterly, that a number of cases have been presented involving more than usual obscurity as to the origin of trouble. One of these cases was reported with the proceedings of the Atlanta Medical and Surgical Union for June 20, 1885, in the March number of the *Atlanta Medical and Surgical Journal*, under the heading of "Strangulated Hernia." My colleagues, Drs. W. B. Parks and J. A. Gray, with whom the patient was attended in consultation, coincided in the diagnosis being doubtful at the outset, as there was no external indication of intestinal protrusion. Upon seeing the patient (white lady, fifty-two years old) in the afternoon of the 30th of December, 1884, I was informed by Dr. Parks that the symptoms indicated intestinal obstruction ; and very soon after entering the bed-room the patient had an access of vomiting, when a considerable quantity of gross fluid, with a dark, greenish hue, was brought up ; and afterwards she expressed herself as being very much relieved, resting upon her back, which she had not been able to do previously without discomfort. Upon making a general examination there was little indication of constitutional excitement, the pulse being soft and but little more frequent than natural, while the temperature was normal. But there was considerable tympanitic distention of the abdomen, and some tenderness especially in the right iliac fossa ; while there was an enlarged and indurated lymphatic gland located in the inguinal region, and corresponding to the outer opening of the inguinal canal, as near as could be determined by the manipulation that was admissible in the sensitive condition of the parts.

A mixture of lime water, camphor, and peppermint was taken every two hours, while nausea continued, and belladonna ointment was applied to the inflamed inguinal gland and rubbed over the bowels.

On the following day, finding that no evacuation had occurred, she was given enemata of castor oil, common salt, and corn-meal gruel, but without other effect than the discharge of some scybala.

On January 1 the patient took twenty grains of calomel and nitrate potash each, in two portions, with interval of two hours, and upon repetition of enemata some hours afterwards, had a proper fæcal evacuation from the bowels, according to the report of the nurse.

On January 2 there was aggravation of the fever which had existed previously, pulse being 128 per minute, and temperature 102° Fahrenheit, with increase of swelling and sensitiveness in the inguinal region, and some tenderness and distention of the abdomen. As the intestinal action was arrested, she took one wineglass of compound infusion of senna every two hours for three times, and a camphorated mercurial ointment was applied to the inguinal swelling, with embrocation of belladonna ointment to the abdomen.

My explanation of the symptoms up to this time was, that a strangulated hernia at the internal ring had existed previous to my first visit, on which occasion it was partially relieved by the act of vomiting; but that adhesions had taken place around the internal ring, from which point inflammation extended along the canal, producing the enlargement of the lymphatic gland, corresponding to the external ring above Poupart's ligament, which was noted upon my first examination of the case. It was supposed that the lumen of the intestine was sufficiently open to admit of the passage of its contents, as observed in the evacuation after taking the calomel and using an enema on the previous day, and that the transmitted irritation would be lessened by a free discharge from the bowels under the influence of the purgative.

January 3.—The bowels had been well moved during the night, with apparent relief to the symptoms, the pulse being now only 110 to the minute, and temperature 100°. But the tongue presented a dry, brown streak along its central line, and there was still some abdominal tenderness, and she was directed to take two of the "Perules de essence de terebenthine du Clertan" every three hours, with continuation of the local applications to the gland and abdomen.

January 4.—Pulse 120 to the minute, and temperature 102°, with deep red discoloration extending from the right inguinal across the iliac to the lumbar region. She took internally acetate of ammonia, a teaspoonful every hour, and applied externally a solution of acetate of lead and laudanum upon flaxseed poultices over the entire surface, within the crest of the ileum, extending from the inguinal to the lumbar region.

January 5.—Aggravation of all symptoms, with diminution of vital force, accompanied by erysipelatous condition extending across the right side from the inguinal region. She took a teaspoonful every two hours of the following mixture: Sulphate quinine, 1 drachm; muriated tinct. iron, 1 ounce; water, 3 ounces; with subcutaneous injections of carbolic acid, 1 drachm; glycerine, 1 ounce; water, 2 ounces; in various points, including the labia majora on right side. She was directed to take milk punch, soft eggs, beef tea, or other nutritious food, so often as it might be acceptable.

January 6.—Pulse 130 to the minute, temperature 102°, with disintegration of the tissues at two points nearly corresponding to the line of Poupart's ligament, and marked general prostration. The carbolized solution was thrown into the two openings existing near the inguinal region, and a tablespoonful of acetate of ammonia in the intervals of the tincture of iron and quinine was continued. Charcoal and Peruvian bark were added to the poultices over the gangrenous surface in the iliac and inguinal regions.

January 7.—She expired at 4 P.M., and on the following day an autopsy revealed that in the internal femoral ring on the right side a knuckle of the ileum had been secured by adhesions, and the constricted portion of the intestinal wall had given way so as to admit of the passage of the contents of the intestine into the femoral canal, which penetrated into the deeper-seated tissues, and propagated the inflammatory action to the inguinal glands, ultimately producing gangrene in the adjacent tissues, and death resulted from septicæmia.

I did not consider an operation warrantable in this case, as after my first visit there were no symptoms of strangulation of the intestine, the vomiting ceased, the bowels responded to cathartics, and there was no positive indication of the true condition of the partially constricted bowel.

With light thrown upon the case by the post-mortem examination, it would have been good surgery to have resected the implicated portion of the ileum, and reunited the walls of the intestinal canal by sutures. I have recently verified the practicability of removing twelve inches from the ileum of the dog, with reunion by thirteen stitches of interrupted silk suture, and restoration of the animal to health after a few weeks. It might have relieved this case.

In contrast to this unfortunate case, I have to report another example of intestinal impediment in which there was much obscurity as to the exact seat and character of the obstruction.

On the 16th of June, 1885, I was called to see a colored man about fifty years of age, who had been suffering for several days with pains in the abdomen and some tenderness about the umbilicus, accompanied by frequent vomiting. Upon making an examination, a tumor was found in the inguinal region, terminating below in a hard lump or mass about the size of a pigeon's egg, with a sense of slight fluctuation at its lower extremity in the tunic of the spermatic cord, from which a little serous fluid was drawn by aspiration with a hypodermic syringe. Manipulation revealed close adhesions of the indurated body to the surrounding tissues, and the patient stated that it had existed there for a number of years, if not since boyhood.

The protuberance extending from this in the direction of the inguinal canal was not influenced by changing from the erect to the horizontal position or elevation of the buttocks, nor was there any sense of impulsion by coughing. The taxis accomplished nothing towards reduction. Copious enemata of warm soap-suds brought away no fæcal matter. There was but little febrile excitement, and the vomiting did not occur, for the time, except when he took food. In view of all the circumstances, it was not satisfactorily determined whether the tumor was owing to the presence of a portion of the abdominal viscera or a collection in the inguinal canal below the internal ring, and there was consequently a doubt as to the source of the symptoms of intestinal obstruction afforded by the history of the case previously. In consultation with my colleague, Dr. W. D. Bizzell, it was resolved to give the patient 20 grains of calomel and ½ grain of morphine, in two portions, with interval of two hours, to be followed within four hours by two tablespoonfuls of castor oil and a teaspoonful of spirits of turpentine, using hot turpentine stupes over the abdomen in the meantime. Should no evacuation from the bowels ensue from the medicine, in the course of three hours, enemata of warm water with oil and turpentine were to be used repeatedly. At my request Dr. W. P. Nicolson also saw the patient during the afternoon, and concurred in our view of the case—that no operative measure was indicated by the existing condition.

On the following day it was found that no fæcal evacuation from the bowels had been secured, and the enemata were repeated, with fomentations over the abdomen of belladonna ointment and application of warm poultices of flaxseed and hops were used unremittingly to the bowels.

June 18.—With a view to a final decision in regard to the measures of relief, Dr. K. C. Divine was invited to examine the case with us to-day, and while the wife reported some action on the bowels it was supposed to be little else than the remnants of the injections, as she gave no clear evidence of the nature of the discharges. There was evidently a change in the protuberance above Poupart's ligament, as gurgling was distinct upon palpation and the contents could be expelled by pressure upwards, while the act of coughing gave an impulse to the tumor which indicated a free communication with the abdominal cavity. The tympanic distention was marked over the greater part of the abdomen, and considerable tenderness at and around the umbilicus. The vomiting only occurred when fluids were taken, and he had retained some nourishment. Considering the apparent release of the constriction of the intestine at the internal inguinal ring, though the induration and adhesion continued at the lower portion of the tumor, it was agreed to repeat the castor oil and spirits of turpentine internally, to be followed by enemata; while the embrocation with belladonna ointment and poultices should be continued to the abdomen. A full dose of morphine to be taken at night.

June 19.—Reported as having had fæcal discharges, with mitigation of all the symptoms, yet with some abdominal tenderness and distention. Ordered a liniment of spirits of turpentine, sweet oil and camphor over the entire abdomen, and to have a full opiate repeated so often as necessary to give complete rest every night.

June 23.—After passing three days of comparative relief the bowels ceased to act entirely, and vomiting ensued in such form as to lead to the inference that there was intestinal obstruction; while the gurgling in the tumor was audible, and the mobility of the contents of the adherent intestine was evidenced by the lessening of the protuberance under compression; yet the symptoms were such as to induce me to call another consultation in regard to the treatment of the case. The patient now expressed his readiness to submit to any operative procedure which might be thought requisite, but our conference resulted in deferring any active surgical interference, and recurring to the use of calomel and morphine with bicarbonate of soda, followed by castor oil and spirits of turpentine. This not having acted upon the bowels, the clysters of warm soap-suds and table-salt were resorted to on the following day, and ultimately brought about the desired result in continued fæcal discharges from the intestinal canal.

The exact site of constriction, or the occasion of the interruption in the intestinal action at the outset and subsequently, is involved in doubt. The old hernial protrusion, which had not previously attracted the attention of the patient, may have been the seat of obstruction in the first instance; but there is no evidence that there was any arrest of the contents of the intestinal canal where it entered the hernial sac, when symptoms of obstruction were presented afterwards, accompanied with stercoraceous vomiting.

Without going into the details of the case subsequently, it is sufficient to say that after a most tedious ordeal of peritonitis, with much local tenderness and distention of the abdomen, treated by spirits of turpentine internally and externally, the patient eventually recovered in the course of a month, so that he was able to move about the house and yard. The tumor continues in the inguinal region, with an indurated mass at the lower part blocking up the canal, so as to prevent the further descent into the scrotum. All in all, it is a rare instance of irreducible hernia, with such adhesions as to prevent its increase, which became incarcerated; and after being released, led to obstruction elsewhere in the intestinal tract, for which laparotomy seemed at one time to be indicated, but was finally relieved without surgical interference.

During the suspended action of the bowels, Dr. F. H. Nichols accepted my invitation to demonstrate his mode of inducing "the muscular retractive power of the bowels in strangulated hernia" by a sudden application of cold water over the abdomen, and grasping the abdominal walls with the one hand, while with the other makes taxis upon the protrusion. But with adhesions such as existed in this case, no favorable result was possible.

A negro man having received a gunshot wound that implicated the abdominal cavity, and the lower part of the thoracic cavity on the left side, was received into the Ivy Street Hospital upon the last day of April, 1885.

I visited the case in connection with Dr. W. P. Nicolson, subsequently, and it afforded some points that served to illustrate the difficulties of diagnosis. There was peritonitis, with great distention and tenderness over the abdomen at an early stage, for which he was kept under the influence of opium at the outset and subsequently with stupes of spirits of turpentine. Ultimately he took calomel and opium internally, and used frictions over the abdominal walls with camphorated mercurial ointment. Eventually there appeared some fluctuation in the left hypochondriac region, and upon introducing an exploring needle a fluid fæcal discharge took place, and as this might have come from the descending colon where it lies immediately in contact with the inner service, we did not feel warranted in making an incision at that point. Upon introducing the needle further towards the umbilicus there was nothing evacuated through the canula. At this time no discharges could be had from the bowels, and on introducing a flexible tube of two feet in length nothing escaped but a dirty fluid which seemed to be the washings of the colon from the warm water enemata. He vomited everything that was swallowed, and death took place on May 21st. Some hours afterwards a post-mortem examination revealed that the colon had been wounded where the transverse makes the descending curve, and had become agglutinated to the parietal wall near the posterior portion of the diaphragm, with ulceration and extravasation of fæcal matter. This had permeated the tissues and formed a *cul de sac* extending down into the lumbar region, which had caused the fluctuation, and into which the exploring needle had entered. Had a free outlet been given to the accumulation of fæcal matter, it might have given temporary relief, yet with the extent of the cloaca, and the large surface for absorption, it is not likely that the creation of an artificial anus would have proved satisfactory. There was a constriction in the colon below the point of injury, which came doubtless from the inflammation, and hence a complete arrest of the evacuations from the bowels.

The interruption of the intestinal discharges only occurred during the last week, and while there appeared to be a temporary subsidence of the peritoneal inflammation under the calomel and opium, all became aggravated after the occlusion of the bowels.

The duration from the infliction of the wound until the death was, as noted, twenty-one days; and though there were indications of extensive peritonitis early in its course, and ample evidence of the inflammatory action in the adhesions found, there were no traces of escape of fæces into the peritoneal cavity from the colon. It seemed that the coats of the large intestine must have been abraded in such a form as to set up inflammatory action, which caused adhesions with the parietal wall, and that an ulcerative process had allowed the fæcal matter to pass out into the cellular tissues and burrow between the lining of the cavity and the cutaneous investment, so that a considerable receptacle for the fæces extended from the opening down below the false ribs on the left side. This death was from septicæmia, as in the first noted case.

I have, in addition to these puzzling examples of intestinal obstruction, had an opportunity of seeing a case which was remarkable in many respects under the care of Dr. W. D. Bizzell. The comparative freedom from constitutional disturbances in the early progress of unmistakable arrest in the intestinal action, with the ultimate extreme prostration of the vital powers after the evacuations were restored, are notable features in its history. At my request, the following notes of the case have been kindly furnished by Dr. Bizzell:

Was called July 12, 1885, to see E. C., a white man about thirty years old, suffering with symptoms of intestinal trouble, having intense pain in the epigastrium and abdominal region generally. Gave morphine hypodermically, ten grains of calomel on his tongue, and applied hot mustard foot-bath.

July 13. No movement from bowels. Gave another hypodermic of morphine, and ordered enema of warm water with salt and spirits of turpentine. At two P.M. was vomiting and restless, but had no fever. Enema only brought some scyballous matter and some flatus. Complained of constant pain in the abdomen, but no tenderness on pressure. Gave morphine hypodermically again. Introduced a long tube and injected warm water, with salt and turpentine, while patient was in the knee-chest position. Gave also ten drops of tincture of belladonna every two or three hours, until slight dryness of throat ensued.

July 14. All symptoms worse; vomiting offensive matter continuously; burning pain in stomach, which is only partially relieved by full doses of morphine; thirst intense, for which he was allowed cracked ice freely.

July 15. Retention of urine required use of catheter. The nausea and restlessness continue, and vomiting of fæcal matter. Drs. Nicolson and Gaston consulted with me as to advisability of exploratory laparotomy, and we concluded he would probably stand as good a chance without as with operation under all the circumstances of the case. Still required the use of catheter in the afternoon to draw off the urine.

July 16. Fæcal vomiting continued. No movement of bowels, with repetition of injections. Catheter still required to draw off the urine. Pulse accelerated, and indications of a low type of fever. Tympanitis moderate, and no localized induration or special point of tenderness. Gave brandy and aërated water, with hypodermics of brandy and morphine when the stomach seemed to retain nothing. Also gave Valentine's meat juice.

July 17. Patient grew weaker, but urinated without special difficulty. Hypodermics of morphine kept up as required to relieve suffering.

July 18. No material change, except that all the symptoms were more aggravated and more difficult to control. Hypodermic use of morphine continued.

July 19. Three o'clock P.M. His condition was extremely critical. Respiration rapid, shallow, and gasping. His features pinched, body bathed in a cold perspiration. Gave frequent hypodermics of brandy, and had his body rubbed with whisky and camphor, when there was some reaction of the organization.

July 20. At seven o'clock A.M. there was suddenly a gush of thin fæcal matter, which covered the bed, and this proved to be the turning point in the disease.

(The perseverance of Dr. Bizzell was rewarded by a decided change for the better after this resolution of the obstruction, whereas a relaxation of his energetic application of stimulants would most likely have left him so prostrate under the influence of this discharge from the bowels as to have led to complete and irretrievable sinking of the vital powers.)

All the symptoms showed immediate improvement. Only vomited occasionally, and there were several large fæcal evacuations of very offensive odor. He was able to take some nourishment. Pulse from 100 to 110 per minute, and temperature from 99° to 100°. Required very little opiates from this time forward.

July 24. He is using only the blandest diet, as I apprehended extensive sloughing of the incarcerated portion of the gut. I left the city that night, and it was stated that on the following day he passed a large quantity of dark, thin, extremely offensive blood. My friend, Dr. Nicolson, saw him for me, and gave a combination of ergot, astringents, and opium. Had another but smaller hemorrhage on the 26th, which was the last.

I returned on the 29th, and found the patient still suffering from slow fever and quite weak, though able to sit up for a few minutes. The bowels were regular and passages fairly consistent. No slough passed by the rectum, though sought for in the discharges daily.

August 3. He was allowed to leave in the company of his mother on the sleeper-car for their home in Aurora, Ill., and arrived without anything notable.

A report from Dr. W. C. Henry states that on the 7th of August he began to complain of pains in the right side, with pulse 108 to the minute, and temperature 100½°, and on the next day there was considerable enlargement of the liver, with tenderness on pressure. Found him with much gastric disturbance on the 9th, and on the 10th gave him medicine only hypodermically, and aliment by the rectum. On the 11th of August the enlargement of the liver extended three fingers' breadth below the ribs, and on the 13th a fluctuating point was aspirated, giving vent to nearly a pint of pus and sanious fluid. He seemed to rally after this for a time, but sank again in twenty-four hours, and died on the morning of the 15th of August.

The post-mortem was made on the afternoon of the same day, which is given as reported to Dr. Bizzell by Dr. Henry. "An enormously enlarged liver with large abscess refilled from the aspiration ten days before; gall-bladder entirely obstructed (duct) and greatly distended; considerable congestion of upper end of duodenum. The most serious difficulty, however, was found in the small intestines. The entire mass was in an almost gangrenous condition; firm adhesions everywhere, with large patches of lymph in various places; there was a portion of the intestine, perhaps five inches long, that was largely dilated. The conditions in the bowels alone were sufficient to cause death, and the wonder is that he did not succumb to that before the active disease came on in the liver. * * * * *

"After having made the autopsy, I feel satisfied that all was done that could possibly have been done to save the precious life."

This very brief and imperfect statement of the facts noted upon making the autopsy of this interesting case must strike everyone as falling short of what ought to have been observed and recorded in this examination of the contents of the abdomen.

That the patient might have survived if his mother's anxiety to return to Illinois had not precipitated his removal, is highly probable, and yet it is a remarkable phase of the case that such an acute inflammation, terminating in abscess of the liver, should have been so speedily developed, with so large an accumulation in the gall-bladder. It would have been very instructive to have had further information as to the nature of its contents, and in regard to the state of the intestinal canal. But a request by Dr. Bizzell for exact details of the viscera elicited, after a considerable time, from Dr. Henry only a brief reply, that "the dilatation of the bowels was about three feet from the ileo-cæcal valve. The most extensive diseased bowel was below the pouch, while considerable congestion existed above also. It was our opinion that there was no evidence of a previous intussusception, viz., ulceration and sloughing; nor was there at any time any obstruction at the valve. There had been no giving way of any portion of the bowel or any escape of contents into the peritoneal cavity. We could find no gall stone." Dated Aurora, Ind., Oct. 4, 1885.

I was called, in consultation with Dr. H. F. Scott, on the 9th of July, to a case presenting many of the symptoms of intestinal obstruction in a black girl eleven years old; but upon using inhalations of chloroform to the extent of partial anæsthesia, so that palpation could be made over the abdomen, without being interfered with by the writhing and contortions, no tumor or other irregularity in the course of the intestines could be discovered. The vital forces of the patient were so much depressed that it was not thought prudent to undertake any operation, and death occurred in the course of a few hours after I first examined the case. A post-mortem examination could not be secured, much to my disappointment.

This case was of recent development, being only three days from the incipiency of the arrest in the evacuations, and would most likely have been relieved by operative measures at an early period of its progress, or perhaps even on the last day.

A recent report by Dr. Joseph Heald, of Westford, Mass., in the *Boston Medical and Surgical Journal*, for September 3, 1885, giving a successful case of laparotomy for intestinal obstruction, encourages a resort to this operation. Under the progress of symptoms indicating an impediment in the bowels from Sunday until Thursday morning, his condition is given as follows: Patient looking badly; eyes sunken; countenance anxious; breathing thoracic; body covered with cold sweat; bowels not moved, and no escape of gas; stomach unable to retain anything whatever; pain and tenderness to the right and below the umbilicus, as previously noted and extending over an increased area of the abdomen; the temperature 98°; pulse 110–120. An operation being then suggested as his only chance of recovery, it was done on Thursday, July 24, 1885, by Dr. John C. Irish, of Lowell. The patient being under the influence of ether, the abdomen was opened in the median line by an incision seven inches long, reaching from the umbilicus to the pubes. Owing to the tense condition of the recti muscles, the incision was extended an inch above the umbilicus, and the left rectus muscle was divided at the left of the umbilicus. After drawing out some fifteen feet of the intestinal canal, Dr. Irish passed his hand into the abdominal cavity and withdrew the invaginated portion of the ileum from the ileo-cæcal constriction and found this about three inches in length, thickly studded with deposits of lymph, but the congestion extended up the ileum only a few inches above the obstruction. The remainder of the small intestine appeared to be free from any inflammatory action. It was, however, greatly distended with gas, and in the lower portion of the ileum, near the site of the invagination, the distention had become very great. The colon was free from congestion and flaccid.

Up to this time the bowels outside the abdomen had lain perfectly quiet and dormant, but when the constriction was relieved, there was a sudden rush of gas, and the peristaltic action of the intestines started up, and gas escaped from the anus, together with a large, thin, fæculent discharge. This is a notable feature of the case.

Patient rallied well and quickly from the operation, and was given a hypodermic injection of morphine—one-sixth grain every five or six hours, for three days—and rectal injections of three ounces of milk, and half an ounce brandy every three hours. Gas was passed freely and the bowels moved spontaneously on the fourth day. Temperature on the evening of the third day was 101°; at no other time did it rise above 100°. Patient sat up on the fourteenth day.

Dr. Irish furnished the following summary of cases reported when the operation was deliberately undertaken for occlusion of the bowels by invagination, volvulus, or constricting bands: Whole number of cases, 17. Adults, 10—Deaths, 6; Recoveries, 4. Children, 5—Deaths, 2; Recoveries, 3. Two cases (not stated whether adults or children), deaths. Recoveries are distributed as follows: Adults—France, 1; England, 2; Scotland, 1. Children—America, 1; England, 2. Cause of death in five cases: shock a few hours after the operation.

It is stated by the reporter that "the above summary is as complete as the resources within our reach allowed us to make." And further he remarks, "It would appear from this that the case I have described is the first successful case of laparotomy for intestinal obstruction in an adult that has been reported in this country." Such statistics avail but little.

This is a remarkable statement in view of Ashhurst's table at page 835 of his surgery, giving 68 recoveries out of 230 laparotomies. Of these cases there are 13 recoveries in 43 operations for invagination, and 7 recoveries in 20 laparotomies for intestinal hernia and ileus; so that the sweeping remark congratulating Dr. Irish as a pioneer in having performed the first successful laparotomy for the relief of intestinal obstruction on an adult in this country must be attributed to want of information as to the facts.

Still, however, it must be regarded as a piece of good fortune to be able to withdraw the ileum from the ileo-cæcal constriction and secure so favorable an issue. I recall vividly, in a post-mortem of a patient with a similar invagination, there was such resistance to the retraction of the bowel as to necessitate dividing the sphincter by a bistoury slipped in by the side of the ileum, and when this grasp was relaxed, there were no signs of adhesion, so that the intestine was easily drawn out from the colon, and had not undergone serious change of structure.

It is evident that there have been favorable results which are overlooked in this record; and a case of laparotomy on account of intestinal obstruction, proved a complete success under the care of Dr. Edgar Kurz, at the close of the past year, in Germany. This report in the *Deutsche Medicinische Wochenschrift*, has been noticed recently in other medical journals, and has some points of special interest in connection with my investigation of obscure cases.

The patient, a man aged thirty-three years, had observed a slight reducible hernia in the right inguinal canal, in August, 1884, but when Dr. Kurz was called to him, October 23, 1884, with severe abdominal pain and vomiting, it was not apparently the cause of trouble, and the diagnosis was subsequently made of ileus, without being able to locate the obstruction.

This condition constantly became worse, attended with stercoraceous vomiting, hiccough, and pain in the abdomen, so that on the 1st of November the operation was performed in the linea alba, under a one and a half per cent. carbolic spray.

There were no signs of peritonitis; the colon was found ensnared in a ring near the ileo-cæcal region, which required to be divided with a probe-pointed bistoury, when the constricted part was found injected and intensely red. After the replacement of the intestine, the abdominal wound was closed by three silk peritoneal and six superficial sutures. Movement of the bowels took place for the first time on November 6, and he was able to take short walks by the 12th, recovering, subsequently, without any traces of the previous hernia. Notwithstanding an intestinal obstruction of a week's duration, a good result attended the laparotomy in this case.

But such good fortune has not characterized other cases in Germany reported through the same channel. In a discussion at the Berlin Medical Society, Dr. Bardeleben stated that a man had a small inguinal hernia, which he had reduced himself. Symptoms of internal strangulation arose, and in six days they became urgent. Treatment by opium, washing out the stomach, and enemata alleviated the symptoms for a few days, but on the sixth day laparotomy had to be resorted to. A constricting band was found and divided; but death ensued from peritonitis in five days. Bardeleben thought that a more favorable issue might have occurred if the operation had not been delayed, owing to the amelioration produced by washing out the stomach.

In another case, in which the symptoms were severe and the abdominal distention great, the constricted gut was found to be gangrenous. The necrosed part was excised; and the divided ends of the bowel were sutured, but the patient died the next day.

In a third case, marked by a great distention, the seat of strangulation could not be detected on laparotomy. The bowel was opened at its lowest part and much fæces escaped. This patient succumbed in two days from peritonitis and collapse.

Dr. Schmidt showed a specimen from a woman who had complete obstruction for six days, and for two days fæcal vomiting. The stomach was washed out five or six times with transitory effect, but death occurred in twenty-four hours after entering the hospital. The cause of the obstruction was found to be the inclusion of a coil of ileum in a loop formed between the large intestines and the uterus, which were firmly adherent to each other. There was commencing gangrene, and, owing to the adhesions, the reporter says, it was clear that an operation could not have given relief. This, however, could not have precluded resection of the portion of the bowel which was implicated, and had it been done at an early stage the adhesions would not perhaps have presented any serious complication, as they were chiefly consequential from inflammatory action. It is stated that Dr. Hahn had performed laparotomy in twelve cases of ileus, and in no case could washing out the stomach have given permanent relief, but we are not informed as to the result of these operations.

Dr. Henoch instanced a case where washing the stomach had succeeded when enemata had failed; yet there remains a doubt as to the benefit of the previous applications within the colon; while we observe Dr. Senator confirmed the statement that this measure had succeeded when enemata had failed.

Dr. Wolff would employ it, not only to possibly remove the obstructing cause, but because by relieving the stomach from its fæculent contents it places the patient in a more favorable condition for an operation.

Dr. Von Bergmann instanced the danger in fæcal vomiting of secondary gangrenous pneumonia from inhalation, which washing out the stomach would obviate. This seems a far-fetched view of the matter, and indeed all the evils attributed to the presence of fæcal matters in the stomach are overestimated, as it is not to be supposed that the tolerance of this organ admits of their retention in it for any considerable time, and it is rare that excrementitious matter returns from the colon.

Dr. Bardeleben was not opposed to washing out the stomach, but insisted on laparotomy being done early; and admitted that the main difficulty in these cases lies in the arrival at a clear diagnosis, and the impossibility of formulating any general rules of treatment. The special measure to be adopted must depend upon the developments in the case.

In regard to the special measures of excision or resection of the affected portion of the small intestines, there exists no doubt when the change of structure renders it clear that disorganization must ensue. My own successful case of re-union of the small intestine with silver wire, after two and a half feet had been removed with suicidal intent, is perhaps the best illustration on record of the complete restoration of the canal.

I have also experimented upon the dog by the removal of a section of the ileum with the re-union by silk interrupted sutures, and secured a perfect re-establishment of the intestinal tract. But in four dogs, where the ileo-cæcal connection was resected, and the ileum was attached to the colon by the continuous or interrupted suture of silk, the animals succumbed within twenty-four hours, apparently from the result of shock, as there was little evidence of inflammatory action upon making the autopsies.

As the cæcum is very liable to trouble of an acute or chronic order, indicating operative procedures, these resections were undertaken with a view to serve as a guide in cases calling for such a measure, but the fatal result in all four experiments does not offer encouragement to excise this part, and it is only warrantable as a *dernier resort.*

The difficulties encountered in a case of excision of six inches of the small intestine by Mr. W. H. Folker, as reported in the *British Medical Journal* of August 15, 1885, by retaining the cut ends of the bowel at the external opening, should incline surgeons to suturing the extremities together and dropping the part into the cavity of the abdomen, with closure of the external wound in similar cases.

In this connection I note an operation of Mr. Lawson Tait, that is reported in the September number of the Albany *Medical Annals* by Dr. A. Vanderveer, indicating an intention to create an artificial anus when on careful examination the point of obstruction in the small intestine could not be found. "He opened the ileum at its most prominent fold, as it appeared in the incision, and on introducing a large rubber drainage-tube there escaped a great quantity of gas and much fluid, the abdomen becoming flattened at once. The wound was closed including the end of the incised bowel with the peritoneum to edges of incision, a free opening in the bowel having been made in which the drainage-tube rested." The patient died from apparent exhaustion on the second day, but unfortunately there is no autopsic report of the exact nature of the obstruction.

The practice of another prominent British surgeon is more worthy of imitation in proceeding systematically to discover and relieve the constriction, when the distended bowel is incised for the discharge of fluids and gases with the subsequent suturing of the opening in the intestinal wall and dropping in of the intestines. Mr. J. Greig Smith, Surgeon to the Bristol Royal Infirmary, lays down the following rules for our guidance in opening the abdomen for the relief of acute intestinal obstruction. 1. Make the incision in the middle line below the umbilicus. 2. Fix upon the most dilated or the most congested part of the bowel that lies near the surface and follow it with the fingers as a guide to the seat of obstruction. 3. If this fails insert the hand and carry it successively to the cæcum, the umbilicus, and the promontory of the sacrum. 4. If this again fail, draw the intestine out of the wound, carefully covering it until increase of distention or congestion or both in one of the coils gives an indication that the stricture lies near. 5. If there be considerable distention of the intestines, evacuate their contents by incision, and suture the wound. Never consider an operation for intestinal obstruction inside the abdomen finished until the bowels are relieved from over-distention. 6. Be expeditious, for such cases suffer severely from shock. The whole operation ought to be concluded in half an hour.

In his clinical lecture reported in the *British Medical Journal*, the following illustrative case is given. The patient was in about as bad condition as one ever sees upon an operating table. His pulse could scarcely be felt, and certainly could not be counted. His intestines were everywhere of a bright rosy red, covered in many places with patches of yellow lymph, and everywhere fully distended. Semi-purulent fluid flowed from the abdomen when the incision was made, and a good deal more was mopped out. The constriction, a mesenteric band was discovered in the way described and easily divided. The bowel was incised, and through the opening, while the abdomen was being kneaded, large quantities of gas and fluid escaped. A continuous suture of fine catgut accurately closed this opening; the bowel was easily returned; the abdominal cavity was mopped out and the wound sutured in flaccid abdominal walls. You have seen the case recover with no more trouble than any other abdominal section, with less trouble certainly than most cases of herniotomy.

The advantages of washing out the cavity over mopping away accumulations in the abdomen in operations on the intestines do not seem to be appreciated by the operator, as this was a case pre-eminently suited to it. As stated in my report of a case of laparotomy with suture of the intestinal canal, in the *Southern Medical Record* of January 20, 1885, "there is great difficulty in cleansing the cavity with sponges and cloths and more or less irritation from friction with the mops; a more salutary result might be secured from flooding the entire abdominal cavity with tepid water, and passing it amongst the folds of the intestines and the mesentery by a syringe, so as to detach any particles of foreign or effete matter, and cause them to pass away in solution with the overflow repeatedly of the peritoneal receptacle."

The *British Medical Journal* of August 29, 1885, gives the views of Mr. Frederick Treves upon some points of the operative treatment for intestinal obstruction which deserves the serious consideration of surgeons. He advises, after the preliminary routine treatment, that laparotomy should be performed within the first twenty-four hours, if the diagnosis be in its main points clear. It seems to him to be tampering with life to waste time over the administration of metallic mercury and enemata of tobacco and the like. To thrust an aspirator into the abdomen, as some advise, is a stab in the dark, an empirical proceeding that leaves everything to chance. Massage or abdominal taxis has its advocates, but the procedure is at the best a blind one. The manipulation of the abdomen may, by a rare combination of circumstances, reduce the secured loop, but it is as likely to aggravate its condition and to produce a perforation in a segment of intestine that is approaching gangrene and that needs the tenderest handling. He advocates Mr. Hulke's plan of feeling for the collapsed coils below the obstruction and says the method of straightening the mesentery, so as to make out its right and left sides is of much value. If the bowel is gangrenous it should be resected and he recommends that an artificial anus be established. But when all the inconveniences attending this process are weighed against the probabilities of success in immediate suture of the divided bowel after resection, we should give the patient the benefit of this.

In the *Journal de Medicine de Paris* of June 7, 1885, Dr. Schwarz reports the case of a woman forty-six years old, who died after a bimanual examination for a fibrous tumor of the womb, with symptoms of peritonitis following the manipulation. It was found at the autopsy that a loop of intestine adhered to the womb and that the gut had been ruptured in the examination leading to the fatal result. This case is instructive as to the proceeding of introducing the hand and arm into the colon for the purpose of exploration, since the violence must be greater to the coats of the bowel by such a measure, than could occur from a bimanual examination of the womb done in the ordinary way. With the risks of serious consequences of different kinds, and the uncertainty of getting any benefits from the introduction of the hand through the rectum, it is of very doubtful propriety in all cases; and laparotomy should be performed as a much more efficacious measure for ascertaining the cause of trouble and affording an opportunity for its correction. Of course every other simple expedient must be used before resorting to a measure of such gravity as laying open the abdominal cavity.

As I cannot enter into the details of the various forms of intestinal obstruction, with their appropriate treatment, the reader is referred to an elaborate but concise treatise on this subject in the second volume of *Peppers's System of Medicine*, by Dr. Hunter McGuire, of Richmond Va. A prudent boldness is inculcated in the management of intestinal obstructions, and with promptness in emergencies, caution is enjoined against rashness.

ARTICLE II.

ADVANCES IN THE STUDY OF THE ETIOLOGY OF DISEASE.* By EDWARD G. JANEWAY, M.D., Professor of Pathological Anatomy and Clinical Medicine, and Associate Professor of Principles and Practice of Medicine, in Bellevue Hospital Medical College. New York.

Upon the invitation of your President I have been urged to read a short paper this evening. I have chosen the subject of the advance in our knowledge of the etiology of disease, because of some of the circumstances attending the present occasion. The association meets to-night in a building which is to be devoted to the study of the anatomy and etiology of disease. That it is admirably adapted for the purpose, I think all will admit. No greater inducement to study exists than that innate desire for knowledge which can best be compared to the hunger for food which seizes upon the starving, a desire which will not show fatigue, nor care for surroundings, provided that in any way it may attain the object of its quest. But oftentimes those well adapted for research and investigation have been absolutely unable to succeed from the want of the necessary means, appliances, and place for such work. The German government has been very far-seeing in this matter, and has subsidized the study of disease, using the term in its scientific sense, by erecting laboratories, endowing professorships, and paying the expense of the work done in studying pathological anatomy, and also of experimental investigation. The result of this course is no doubt familiar to all here. Germany has taken the lead in this matter, and students from all parts of the world have flocked to these institutions of study. One cause for their success has often been lost sight of, but the mere mention will no doubt suffice to show how others are handicapped in the race. Any one in this country, unless possessing a private fortune, must give up a large share of his time and thought to acquiring the means of existence, and for the apparatus and expenses of his work; and this must be either by teaching or practicing. He is thus subject to interruption, is obliged to work at scientific subjects not when fresh and vigorous, but when weary and jaded, and hitherto too often in places little adapted to encourage work under such disadvantages. But thanks to the liberality of the gentleman whose name this building bears, in which we are met, one of the great obstacles to successful labor has been overcome, and we trust that he will never have occasion to regret his gift, but may on the other hand live to see the fruition of his hope.

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* Read at the first meeting of the New York County Medical Association held at the Carnegie Laboratory, Bellevue Hospital, May 18, 1885.

The history of medicine, until within the last forty years, has contained much that has been grossly theoretical, when we consider the subject of to-night's thought. I do not mean to deny that there were not those who had the foresight to see, through the dim mists on the horizon, the rays of the sun of knowledge which is now ascending on his course toward the zenith whence he shall illumine all with his noonday effulgence. But they lacked the means and appliances to prove the correctness of their surmisings. Whilst it has been the merit of many to gradually lead in the pathway of a true explanation, none will deny to certain a pre-eminence in this respect, not alone for what they have accomplished, but also for what they have suggested, which has been the occasion of a successful result by others. Rudolf Virchow is a name which will long continue to be honored by all true students of medicine. He has been chief amongst those who have led in the paths which have developed our present methods of investigation, and in his pupils, scattered throughout not only Germany but the world, we have a corps which has brought, and will continue to bring, order out of chaos. The present year witnesses the issue of the one hundreth volume of the Archives which he edits, and in which he congratulates his readers that though his hand may cease to labor there are so many able and willing to continue the research and develop newer methods. Some might hesitate to ascribe to Professor Virchow a prominent place amongst the advancers of etiology, but without his labors and those of his pupils, in ascertaining the exact anatomy of disease and constructing a rational explanation or theory of its occurrences, we should be far behind our present attainments.

Jenner is usually considered only in the light of a benefactor to the human race because of his success in preventing the spread of small-pox by the introduction of vaccination. Yet this operation, whilst primarily of so great value in this respect, has had a secondary influence in suggesting that for other diseases some such method might be employed, and thus leading inquiring minds to search for the true cause of these diseases.

Whilst many names could be mentioned of those who have studied the causes of disease, or have suggested certain conditions as causes, there are a few who have been successful in their demonstrations, or in furnishing correlative proof by the results of their work. The origin of the idea that a number of diseases called infective spring from organisms which have entered from without, and grow and multiply in their host to again infect others, has probably sprung in most minds from the established instances of parasitic development as witnessed on the skin and in the interior. The objections which are urged to-day against what is called the germ theory of disease were formerly employed against the parasitic skin diseases, both as regards scabies and the fungoid varieties. It requires a long time to do away with the objectors to newer ideas, and these people subserve a very useful purpose by compelling a careful study and repeated investigation before permitting the general acceptance of such facts. They act like filters in gradually eliminating cloudiness from liquids.

To Schwann we owe the idea that putrefaction and fermentation are dependent upon the presence of germs or vegetable organisms, and to Pasteur the dogma that without such organisms there is no fermentation nor putrefaction, as well as that for the different kinds there exist specific varieties. Moreover to Pasteur we owe the method and idea of endeavoring to separate the different varities by fractional culture; he having in his investigations on ferments made use of a method, though not of the soil, now adopted for disease producing bacteria. His plan, which is no doubt familiar to many, consisted in first examining a specimen of yeast with the microscope to assure himself of its tolerable purity; then, taking a quantity of brewers' wort in a glass flask with two necks, one short and wide, and the other narrow and long, he boiled this culture fluid for some time, and then closing first the large and then the smaller end, allowed the fluid to cool down and to stand for several days, in order to ascertain whether any life was in it; in other words he obtained a sterilized soil on which to see its germs. He then introduced, by means of platinum wire, some of his previously examined yeast, only opening the larger tube long enough to admit of his doing this. He then exposed this to a temperature favorable to the growth of the cells he needed, thus obtaining a culture nearly free from extraneous matter. By repeating the process with a particle of this growth in a similar manner, and continuing it, he found that he eventually obtained pure cultures of his germs.

After the acceptance of the belief that fermentation and putrefaction were dependent upon germs which rapidly multiplied under favoring conditions, the search after the organisms productive of infectious diseases could not be long delayed, or the idea, which many already entertained, that in all of these disorders there must be a specific infecting agent, which we might obtain for further research, be hindered from obtaining more adherents. The proof of such ideas in an absolutely satisfactory manner is of extreme difficulty, and as yet has been accomplished but for a few of the disorders; but I do not doubt that the time will arrive when we shall witness each of the disease-exciting germs classified, and its life history known. The nature of the proof demanded is sufficiently familiar to you all, without doubt, but will admit of reproduction here. 1. The disease-exciting germ must be found constantly present during the presence of the disease, or at least of its earlier stages. 2. It must admit of cultivation out of the body under such circumstances as to assure us of its purity. 3. Reintroduced into the system, it must excite in susceptible individuals the same disease phenomena. 4. In the individual so made ill by the introduction of the culture, we must again find the same germs as the cause.

We do not here consider the question as to whether the symptoms are due to the irritation produced by the presence of the germ, or to chemical products produced by the nutrition of the germ and the effete products left over from such process.

Many observers noted the presence of micrococci, bacteria, and the like, before the sure proof was afforded that anyone of these diseases in man or animals was dependent upon a specific germ. The fact of their presence in connection with a given disease has invariably been met by those who do not accept them as the cause, as finding a favorable soil which has been produced as a result of the previously existing disease in which they can multiply. Hence experiments by inoculation of animals by diseased masses, or by the blood containing the distinct evidences of bacilli, did not produce an acceptance of the theory that the disease was due to the specific germ. We can look back and read in Virchow's Archives, Vol. II, of the year 1857, the research, findings, and experiments of Professor Brand, of Dorpat, who barely escaped being a great discoverer in 1856. He inoculated animals with blood taken from the cadaver of those that had suffered with splenic fever, found the peculiar organisms in the blood not only after death but during life, found that the blood was capable of exciting the disease in others, and followed the microscopic examination of the blood for several days, and then studied the blood of animals dead of other diseases, in order to ascertain whether the organisms which he saw were common to others, or peculiar to the disease in question. Unfortunately, he thought that these bacilli were vibrios and similar to the organisms found in putrefying blood, only he drew the conclusion that their presence, during life or within a few hours after death, in the blood was characteristic of splenic fever. I have introduced this case because it was the disease of which later Robert Koch, 1877, was able to trace the history; and which was the first to prove that there is a specific organism which can be grown out of the human or animal body, and can be re-introduced, that the introduction of the organism into a wound will reproduce the disease, and that during the disease the specific agent is again found in large numbers in the blood. Moreover, he found that the bacilli grew and produced spores which had a far greater tenacity of life than the bacilli and that the secret which had puzzled others as to the reason why blood from an animal sick with the diseases which did not contain the characteristic rods should yet be able to reproduce the disease, as well as to show that the earth, etc., was not necessary as a place for change, but that this development of bacilli into leptothrix-like rods, followed by the characteristic production of spores, occurred as well in the microscopic slide, providing that air had access to the germ, that a certain temperature was maintained, and that nutriment material was supplied of a proper kind. Bollinger and Davaine had particularly reached conclusions on this subject, making the baccilli responsible for the disease, but failing to explain the case above alluded to where the blood without bacilli reproduces the disease, owing to the lack of knowledge of the true method of spore development.

It becomes much easier to consider the probability that contagious and infectious diseases are due to a special organism, be its method of action what it may, after having a single example thus, as it appears to me, indubitably established. Previous to this time (1877) there had already been found by Obermeier an organism in the blood of patients with relapsing fever which was so peculiar in its appearance that, so far, it has not been found in any other disease than this.

The discovery of the spirillium in this disease was made in 1873. It has been found in those affected with the disease in India, Russia, and Germany. It exists during and in some cases shortly preceding the febrile occurrences, disappears during the interval, and recurs during the fever of the relapse stage. Koch and Carter succeeded in producing the disease in monkeys by inoculation of blood taken from a person sick with the disease, as also, it is claimed, has been done to human beings in Russia by Moczenttskowski; and again it has been contracted through a *post mortem* wound by Professor Perls.

To the origin by inoculation in human beings the objection has been raised that the disease might already have been contracted by exposure during its epidemic existence. So far the life history of the spirillium of relapsing fever is incomplete, in that its methods of growth and redevelopment are not surely known, and hence it is urged by some recent writers that the spirillia are concomitants. For relapsing fever, then, the same process is going on as was previously sketched for splenic fever. The final outcome can, it seems to me, be only in favor of the view that these organisms are the cause of the disease manifestations, either of themselves or in their process of development.

An immense advance has also been achieved in our comprehension of the cause of many inflammations, abcesses, erysipelas, pyæmia, etc. Whilst opinions were beginning to be molded in this regard, and prior to any established connection between micro-organisms and these states, Lister (1867), by his efforts, which had in view the prevention of the entrance of supposed disease-exciting germs, created a revolution in surgery. There are those here to-night who can recall the former frequency of these conditions of unhealthy inflammation in hospital and private practice as contrasted with the present. So great was this that it was supposed by some that Bellevue Hospital should be razed, and that its site was unfit for future hospital use.

There are some who do not adopt Listerism in its full sense, but yet claim good results. He, who was conversant with the fact, knows that the disbelievers, as a rule, exercise more care as regards cleanliness in all its senses than the most careful of our predecessors. But whilst such results as have been obtained by the exclusion of air and germs do not establish a definite causative nexus between germs and inflammation, they opened the way to more active and painstaking endeavors towards their discovery and cultivation.

Robert Koch again has proved of especial service in this regard. It is especially by following the methods of investigation which he proposed that one is able to discover the micro-organisms in fluids and solids, and, together with the staining by aniline dyes, as introduced by Weigert, has immensely widened our knowledge of their presence in connection with these processes, and also with certain diseases.

As a result of his labors, together with those of a host of others, it has been shown that either micrococci or bacteria are present in inflammatory processes connected with acute abcess, pyæmia, septicæmia, erysipelas, and osteomyelitis. Koch has given special attention to the development of the disease in mice and rabbits, and has shown that, notwithstanding the apparently slight difference between the house and field mouse, in inoculations with a material containing bacilli which will produce fatal septicæmia in house mice, the field mouse will escape. This is only a confirmation of a fact long known of the difficulty of transferring a disease from one animal to another. During the past winter the writer injected, on two occasions, a cat with pus from a localized empyema occurring in a young man who had pyæmia following typhoid fever. On the first occasion the pus was withdrawn from the chest by exploratory puncture; on the second it was taken at the autopsy from the pleura. The cat showed slight ill health for a day after the first, but no marked effect after the second. The sites of the disease showed micrococci in large numbers, one forming zoogloid masses in the tissues of the inflamed spots, intestine, lung, and in the pus.

As regards abcesses, Ogston, Rossbach, Cheyne, and others have found and cultivated certain micrococci.

Erysipelas is a disease of such a characteristic type, sharp clinical course, gradual spread over the tissues, with enough examples to show its contagousness, that it is no wonder that attempts were made to isolate and develop its organism, if one there were. Fehleisen has succeeded, not alone in showing the presence of micrococci in the disease—this others had done previously—but also in cultivating these germs, and in successfully inoculating human subjects with the culture, and producing typical instances of the disease. (1883). Orth had previously attempted this with the contents of the bullae which form, and from the fluids of which micrococci may be formed.

Pneumonia is a disease in many respects resembling erysipelas, as regards its method of spread in the affected tissue, its clinical course, and its comparatively sharp crisis. Our distinguished colleague, Professor Flint, some years ago read a paper and published his reasons for regarding this as an infectious disease. Patient and continued research has enabled the recognition of micrococci—Klebs, Eberth, Friedlander, Frabenius.

These micrococci can be found in the sputum. Leyden has obtained them in the fluid drawn from the lung by hypodermic puncture during life.

It is claimed that after cultivation they may be inoculated with success in the lungs of mice, whilst rabbits are not adapted for the experiment.

Whether these micrococci are the ultimate cause, it may take a long time to determine, but of their occurrence I have assured myself. In one instance, recently, four Italians out of five, living in the same house or shanty, at Tarrytown, sickened with pneumonia. In the autopsy of one of these, four hours after death, I was able to find in the red hepatization, and particularly in the pleural exudation and in the lymph-vessels of the pleura numerous micrococci, as cocci and diplo-cocci and also in somewhat longer chains of couplets.

Eberth, preceding this, had shown that in those dead of meningitis associated with pneumonia, micrococci are found in the pleura.

For a considerable time it was difficult to think of pneumonia with other acute infectious diseases; but I have heard of a number of illustrations of the sickening of several people in the same household with pneumonia. Dr. Geo. Harrison related to me, as an illustration, the instance of a widow of a physician, who was the fourth of a series sick in the same house with the disease. The four Italians above alluded to were, all except one, the occupants of the place. I saw, this winter, a farmer ill in the country with pneumonia; his wife had died of the disease some months before, and the man who went for the doctor on the night of his being taken ill was also seized with pneumonia.

It has been not infrequent, I was told by physicians practicing in several parts of the country, for more than one member of the family to be affected.

Variola and vaccinia have long since been shown to have a particular organism, or micrococcu associated with their development, especially to be found in the earlier stages. I am not aware that the investigation has ever, as yet, gone as far that anyone has succeeded in producing a typical vaccination, after continued culture outside of the body.

Chuveau used these for the purposes of experiment, and this experiment served, for a long time, as the argument in favor of a particular organism in the whole class of contagious diseases.

Micrococci have been found in scarlet fever, measles, and diphtheria, about which there is not, as yet, that sure proof, but those which have been observed are the organisms productive of the disease.

There is no difficulty, moreover, in establishing the existence of a gonococcus in gonorrhœa. Neisser was the first to accomplish this result. Moreover, the claim of successful inoculation in the human urethra has been advanced. Sternberg has, however, in some experiments which he conducted, been unable to succeed in producing gonorrhœa by making use of micrococci of cultures. So that the question arises as to whether the cultures of those who were more successful were pure or not.

Micrococci can be found in large numbers in endocarditis in the little so-called vegetations which form on the heart-valves in this disease, and that necessarily presenting the appearance which one would denominate ulcerative.

The result of Koch's researches upon tubercle and upon cholera are familiar to you from the papers presented on these subjects by Professor Flint, as well as by the interest they have excited in the public press. Moreover, Dr. Biggs, who has recently returned from Germany, will show you later the three comma bacilli, as they are called—mouth comma, cholera nostrasus of Finkler and Prior, and Asiatic. In numerous cases of typhoid fever, a bacillus has been found, not alone in the intestine where it is commingled with numerous others of different sorts, but also in the mesenteric glands and in the spleen. Eberth has described this, and his description has been confirmed by Koch. In five cases of typhoid fever upon which I made autopsies last fall, it was present in each, though as for a binding force in such finding, I cannot expect any strength, because with one exception the autopsies were made twelve or more hours after death. The bacilli of typhoid have been found capable of growth upon culture fluids, but it will be difficult in this way to prove the disease, as the germs would necessarily have to be fed to people susceptible to typhoid fever and not exposed to its influences. The history of medicine furnishes strong arguments for the existence of a germ in this disease, and few will be found more marked than the reports of the outbreak at Plymouth, as I have gathered the facts from the reports published in the medical journals, and from conversation with Dr. Taylor of the Health Board of this city, who visited Plymouth by order of the Board.

For typhus exanthematicus there are no known experiments as regards culture or demonstrations of the peculiar exciting agent. I have examined the blood taken from a spot of skin, the site of petechial rash, and have found in the fluids a few microccoci separate. It is a disease in which careful and repeated examination and culture may be able to show as of the others a specific agent.

Leprosy has been found to contain a specific germ or bacillus somewhat resembling the tubercle bacillus in its reactions. This germ was first discovered by Hansen, of Bergen, however, and afterwards by Neisser, and has been found present in the different manifestations of leprosy. Neisser succeeded in causing a leprosy nodule to grow in the subcutaneous tissue of two dogs. They are capable of producing spores by means of which they can be reproduced.

Bacilli have also been found in glanders which are capable of cultivation and of reintroduction into the system of the horse, with effect of reproducing the disease.

The subject of the connection of organisms with disease is a large one and growing constantly. Robert Koch has proved himself the most thorough and reliable of those who have undertaken this study, and is now devoting all his energies, with a large corps of trained assistants, to the prosecution of the research in different directions. The knowledge which has been gained will not simply be for scientific accuracy, but will avail much in our subsequent efforts to cope with disease; nothing is more essential to a correct prophylaxil than a true etiology. I have omitted from the paper the discussion of sepsis and its congeners, the ptomaines, chemical substances produced either by the action of bacterial changes, or in the process of decomposition, which according to some are more responsible for the injury than bacteria. A host of other names could be added, as Klebs, Coze, Feltz, Toussand, and Billroth, and all worthy of honor, but to-night I simply desire to direct your attention to the subject in a general way.

ARTICLE III.

On the Epidemic of Malarial Fevers at Present Prevalent in Southwestern New England. Historical and Etiological.

By Rufus W. Griswold, M.D., Rocky Hill, Conn.

Second Paper.

On the Etiology.

In entering upon a consideration of the *cause* of ague, I commence with the enunciation—the essential factor of ague and fever is an unknown potency. This is not to put forward anything new; a great many writers have submitted the same acknowledgment of our ignorance; but the most of them, after doing this, have undertaken to show what that unknown potency was or might be supposed to be. I shall step quite aside at this point from the course usually taken by writers on the subject, by saying that I not only have no theory of cause to put forward, but that I do not propose to enter upon the defence of any that have been advanced. If it shall be said that it is idle to discuss this subject without attempting to throw some light upon the cause, my reply is that among the first steps toward the attainment of truth is the abandonment of all error. The elimination from any question of all the matters therewith connected that cannot be sustained before the logic of events and in the face of caustic examination, is a labor of prime importance. The endeavors of the iconoclast in medical theories are not popular; they invite the dislike of the fathers of the theories assailed, while at the same time they leave nothing better behind whereon to stand, and are, therefore, seldom received with the award of thanks. The average mind much prefers to be enlightened as to what is than be convinced of what is not. The physician who can, or will, assure the questioner that the cause of ague is this or that particular thing, gets credit, whether it be right or wrong, in much larger degree than he who confesses his inability to satisfactorily answer the queries propounded. Comparatively few have courage to acknowledge their ignorance; it is cheaper to conceal ignorance than to avow it. Besides this, the human mind is pleased to batten on its self-conceit to that degree that it soon educates itself into the reception of its own theories as being worthy the acceptation of others. Given, therefore, a subject about which there is anything like the uncertainty that pertains to the etiology of intermittent fever, and the theories about it become almost numberless. This is exactly the condition of this matter. And in the fact of the almost numberless theories advanced to account for the intermittent fever, no one of which cannot only not be demonstrated, but cannot be sustained, by either chemical analysis, microscopical observation, or logic from phenomena observed, we have the assurance of the uncertainty. If we had, if we had ever had, a basis so sufficiently supported as to satisfy the inquisitive scientist and physician, there would no longer be occasion to discuss from a point of doubt the matter of the origin of intermittent and allied diseases, and this paper would not have been written on the subject. But because we really know no more as to what is the essential essence for the production of the ague fever than did our predecessors two thousand years ago, there still remains, and there will long continue to remain, opportunity for the aspirant after honors in the pursuit of that will-o'-the-wisp, the malarial poison.

I shall not undertake the hopeless task of putting in review all the ague theories that have been advanced in the past, or that are being advanced in the to-day; but with some small hope of helping to narrow the field for examination in reference to the subject, I propose to look at some of them with the idea of exposing the delusions therein that have obtained to greater or less degree about them in the popular mind, and in reference to some of them in the medical mind as well.

And first, there is the theory of a change in the disathesis of diseases, which supposes that either the individual himself or the climatic conditions about him have undergone some unknown and undefinable modification that determined the *type* of fever that an individual may have, supposing he is to have a fever of some type or other. It is generally credited by the profession in this region, perhaps in all New England, that from say fifty to seventy-five years ago there has been what we call a change of disasethis in the essential fevers from a more pronounced sthenic to an asthenic form—say from the inflammatory to the typhus—over about all the region of country that comes into consideration in this paper, as well as elsewhere. And it is now assumed that there has at this period of time occurred such a change as has decided fevers to manifest themselves in the forms of intermittents and remittents instead of the forms of typhus and typhoid. As affording some ground of justification for this theory of change, it is to be noticed as a fact occurring over nearly all of Connecticut, with the appearance of ague and fever to much extent, typhus correspondingly diminished. Later, typhoid has more frequently come in again at some points where ague has fallen off, and at other points where it has not. What relation may be justly deduced out of the lessened quantity of typhoid with the increase of intermittent, has not been determined; but if it is to be assumed that the partial departure of typhoid, and the income of intermittent in its stead, is from disathetic change, and the change is in the *individual*, there will remain this curious and strange fact to be accounted for, to wit: this remarkable change in the disasethis of the human constitution rather suddenly came over a very large portion—at some points more than half the population of southwestern Connecticut—eight or ten years after the same remarkable change came over half the residents of the Connecticut valley, in the middle of the State, and in still another eight or ten years the same remarkable change came to a large portion of the people of Rhode Island in a very sudden manner; and these points are all on the same degree of latitude, the character of the regions is similar, the habits of the people are like, their receptivities to disease are the same. It belongs to the individual who propounds a theory to stand up and confront the obstacles that arise against its acceptance. This obstacle cannot be explained away; until it can be explained away, validity to the theory of change in the individual are wanting, and the hypothesis rests purely upon assumption. I assert that no such change has occurred. The mere fact that intermittent came in is no proof that it has occurred; it is not even an evidence of it. If it is said that the change is in the surroundings of the individual, then it may be put in reply to that, that it is simply an evasion of the point we are seeking for, and answers no purpose toward the solution of the matter desired; it does not explain what the change is; it does not define what has been added or what taken away to produce the change; it does not state the *cause*. Something has come beyond doubt; what *is* that something? Simply to speak of change is not to explain the matter, but is to leave it garbed in the same obscurity.

Then there is the theory of climatic changes as affecting disease. There is the talk of more rainfall in one year and less in another; less or more hot weather in one season; less or more cold in another; this year the streams are fuller; another, they are nearer dry; one season the spring floods are at the highest, another they are the lowest; and all these in turn are supposed to so affect the country as to produce intermittent fever. Now if it is simply to be said, at this point, that there is *more* ague at some given place in a dry season than a wet one, or in a hot season than in a colder one, or the reverse of this, I shall not attempt here to argue the matter one way or the other. The fact that there is either more or less of ague in any given season at any particular point, because of either an increase or decrease of rainfall, or because of a wet season or of a dry season, or because of a more than average heated summer, or of an average colder one, has not appeared. The facts are, that when we have had intermittent in a dry season it has been attributed to the drought; when we have had the same thing in a wet season it has been attributed to the extra dampness; when we have had it along with or after a hot summer it has been charged to that; and when we have had it with a cold summer it has been laid to that; and all with the same unreasonable inference. What I wish to ask attention to in this connection is, that say in the decade from 1860 to 1870, when intermittent fever was raging with extreme violence in the New Haven section, attacking at some points in the same season more than half the population, as in Hamden, there was almost absolutely none of it in the Connecticut valley region thirty miles beyond; that in the next decade, from 1870 to 1880, when the inhabitants of that region were suffering after the like manner with their neigbors in the New Haven section, the people of the Thames region and of Rhode Island, thirty to forty miles east, had not been touched with malarial diseases. This is truth beyond dispute. Now, as has been before said, these sections of country are on the same latitude, and are under similar climatic conditions as to rainfall and temperature. And I assert that in the ten years from 1850 on taken altogether, there was no such difference between the rainfall or in the temperature in the New Haven region and the Connecticut valley, nor any such difference in any other climatic condition whatever, as could originate and continue intermittent in great prevalence through all these years in the one region while it was absent in the others. If the ability to generate malarial diseases resided in the climatic conditions of southwestern Connecticut, in every year from 1860 for ten years, a like ability would have been demonstrated to reside in the precisely similar climatic conditions a few miles farther east, and would have been developed there. I assert further, that in the ten years from 1870 on, taking them altogether, there was no such difference between the climatic conditions in the Connecticut valley, and those in eastern Connecticut and Rhode Island, either as to heat, cold, moisture, or dryness, or in any other form, as could originate and perpetuate, in all those years, a virulent insistance of malarial diseases in the one section, while the other section remained wholly exempt. I make these assertions with the utmost confidence that they cannot be controverted. The logic of the facts in this connection is irresistable; it cannot be undermined. Going a step further in the consideration of a change in climatic conditions as the course of ague and fever, we are justified in saying this as to the entire region over which the disease has spread in the past twenty-four years, that there was no such change of rainfall or of temperature between all the decades from 1860 backward for seventy years, and forward for twenty, as would account for ague appearance and continuance in every year of the last two decades, in a territory where it had been absent for the seven decades before. There was no more ability in the climatic conditions of central Connecticut after 1870 to originate miasmatic diseases for every year till now, than there had been in at least some of the years for the fifty previous to that time, and when none appeared. There was no more ability in the climatic conditions of Rhode Island to generate ague and fever in the four years from 1880 on, than in the climatic conditions for the scores of years previous to that time. There was no such change in the climate of the hills and valleys of Berkshire County after 1877, as would develop ague where it had almost never before been known. I make these assertions upon the basis of a total lack of evidence put forward to the contrary. The claim, or the conjecture, of climatic efficiency, because of change therein, as it relates to the region we are considering, lacks reasonable support, and is put forward as something possible rather than as something believed in by those who put it forward. There is not the first particle of evidence of its truth.

There is the theory of the introduction and spread of the disease in some parts of Connecticut through the importation of manures from the regions where ague has longer prevailed. In the seed-leaf tobacco region of the Connecticut valley, from the straits at Middletown north into Massachusetts, this view has obtained a credence in the families of many of the farmers. It has its basis in the fact that in the sections into which cargoes of manure from New York were introduced, the inhabitants soon after began having ague and fever, though they had none of them known of the disease before. There was a striking illustration of supposed evidence deduced from the coincidence of suspected cause. Given a neighborhood theretofore free from ague; given the entrance and spread of a shipload of stable manure and rotten garbage from the slums of the city where ague had prevailed; given the appearance of intermittent, with the absence of any other known cause for it; consider the manure as a capable vehicle for the residence of the seeds of malarial disease—and the connection between effect and cause seems established. Examined by itself alone, the conditions present presumptive proof of causative connection. But the fallacy of the deduction becomes apparent when we come to know that there are other regions of the State into which not a fork-full of this manure has ever been carried, but where they have the malarial diseases just the same. Intermittent has been just as bad in sections entirely removed from any possible influence from imported manure as in sections into which it has been carried. If the disease had depended upon the introduction of that factor—if it had been in any way connected with it—there are an abundance of places where it would never have been known. It has prevailed without the presence of that conjectural factor as virulently as where it existed; and if it prevails in places where that special supposed factor does not exist, nor ever has existed, the irresistible conclusion must be that some other potency capable of generating the disease has been engaged; and if that other potency gives us the trouble where there has never been any of the manure, it is reasonable to suppose that that other potency, and not the manure, is alike the cause where the manure has been as where it has not.

Another theory that has been introduced relates to the use of water for domestic purposes from reservoirs and ponds, in lieu of the former more prevalent resort to wells. The change for water supply has in the last few years obtained to quite a large degree in parts of New England, especially in the cities, and also in some of the larger country towns. And as it has happened in more than one instance that not very long after the introduction of ponded water into a city, intermittent has made its first appearance, and has continued and spread, the reservoir or pond has become charged as the criminal in the case, as causing ague not only directly through itself as a drink, but indirectly as becoming the place of lodgment of and nidus for the propagation of malarial germs, therefrom to be diffused over the neighborhood. It has even happened in some instances that in places where the principal water supply is from a ponded brook or surface-collected reservoir, and where an occasional family has continued to use its old well for drinking purposes, the occasional family holding to the well has escaped ague, while the neighbors around who took the ponded water have had the disease. Here is the presumptive evidence of the relation between the water supply and the malaria as cause and effect. This evidence has been put forward in many instances ; but the illusion there is in it becomes apparent when we take into consideration the fact that all about the regions of country where these reservoirs exist, the people too far away to partake of the advantages which they offer, and who never taste from them at all, but depend upon their wells as of yore, have ague just the same. And in direct contradiction of the ponded water theory, it has at other points been frequently conjectured, and even confidently claimed, that the people had ague *because* they used the water from their wells—predicated upon the groundless suspicion that all the wells for miles about had rather suddenly become the sources of malarial poison. This contradiction of theories need not at all surprise us, if we will remember that there is little connected with the subject, either in the conditions under which the disease manifests itself, or in the suppositions wrought out of the manifestations as they present themselves at one point, that are not opposed by what is presented at another point. Thus, in relation to its etiology, it has been observed at some places that only those have had ague who expose themselves to the night air; and it has been quite strongly insisted upon that salvation was certain to all who would religiously keep indoors after nightfall. But right away, and at some point but little removed—perhaps at the very point where that notion has been accepted—it turns out that children of tender months, carefully excluded from that bugbear of the nurse and the hypochondriac, evening air, and the chronic invalid, confined to the house and assiduously secluded after sundown, and the imbecile octogenarian, unable to leave his room, are alike, with the night-walker and the open-windowed sleeper, the victims of the malarial poison. It has over and over again been said that at certain points only those persons had ague who slept upon the ground floor. I do not assert that this may not have sometimes seemed to be true ; but we have come to know in all southwestern New England that there is no room in the house sufficiently near heaven to ensure its occupant from the intrusion of intermittent fever.

And yet another theory is contained in this quotation: "We must go a long way back in searching for all the causes of malarial diseases, even to the third and fourth generations. A part of the sin at least can be laid at the doors of our forefathers. That hardy race of pioneers, in their desire to make for themselves comfortable homes, hurried and worried too much, bequeathing to posterity an overwrought mental and physical condition. This generation emulated their achievements, and being half starved themselves, they half-starved their children, first in their inheritance and second in their rearing. . . . The body has been gorged with carbonaceous foods, imposing monstrous tasks on the poor liver, debilitated, and unable to do one-half of its work properly. No wonder the present race finds itself an easy prey to all kinds of malarial diseases."

There is an immense amount of talk of this sort to be found in the secular and in even the medical papers of the day. The delusion there is in this notion, accepted by a great many very intelligent people, will be obvious from reflecting that those "hardy pioneers" of the past generation, who had no acquaintance with the malarial diseases now so common in southern New England, are duplicated by a corresponding crowd of pioneers every month coming to us from abroad, who readily succumb to attacks of intermittent and typho-malaria very soon after getting into the regions where it prevails, without ever having been "gorged with carbonaceous foods," or having inherited an "overwrought metal and physical condition"; and it will be the more obvious, on reflecting that those hardy emigrants who settle in some region of the States where ague is unknown, do not have the disease, while out of the same shipload those who locate in malarial regions do have it. Whether the hardy pioneer from Europe contracts ague on coming to this country or not altogether depends upon where he goes after getting here. If he settles in northern New York, it is quite certain he will not have the malarial shake; if he settles in southern New England at the present time, the chances are more than even that he will. So, also, if the degenerate descendant of the hardy pioneer of three or six generations ago, with or without a debilitated liver, had been living in the town of Hamden, Conn., about 1864, his chance of having intermittent fever would have been three to two; while at the same time, had he been living in Burlington, Vt., instead, or any other town in that region, the probabilities of his having had it would have been reduced to zero. If we note the geographical progress, from county to county, of some epidemic influence, which puts under its control the half or more of a population which up to twelve months before for many years had not been touched by it, not only of those who have poor livers and have been gorged with rich foods, but alike the most robust, the most healthy, and the most careful; the generous feeder and the vegetarian alike; the man in the prime and best condition of life as well as the octogenarian and the infant at the breast—yea, the very dogs of the neighborhood; and if we further note that on the one side of a somewhat ill-defined but none the less certain line, a large part of the population becomes afflicted, while on the other side of it a population like the other in their habits, their modes of living, their surroundings, their inheritances, and even their livers, are entirely exempt, we shall be able to discover that the especial potency that produces the phenomena of ague and fever is neither an inherited nor an acquired physical predisposition within, but some poisonous quantity from without, absent for consecutive years and generations from extensive portions of country, and then invading and sweeping over them in uncontrollable currents—the more uncontrollable because unknown.

Here is another speculation, quoted from *Appleton's Journal:* "Admitting that the origin of malaria cannot be accurately determined, there are two circumstances in recent phases of social life that may in part account for the greater prevalence of the fever arising from it. Summer pleasuring is one of the circumstances to which we refer. Almost everybody travels in the summer months. . . . Exposing themselves continuously to night air and hot suns, sickness becomes very common among them. . . . Many families that have gone to spend the summer in the country return in September ill with fever. A great many cases of malaria have been contracted in this way. The stranger in any section is naturally much more susceptible to local influences than those who have always lived there, and hence malarial fever may very naturally appear among strangers in places where it has scarcely been known before. . . . It is certain that fever is frequently contracted by towns-people in country places, and it is just possible that the apparent spread of malaria may be largely due to this fact. A great many people in the city of New York are suffering from it, and we do not know a case of malaria occurring in the older part of the town that did not have its origin in the way we have mentioned."

Before giving this writer's other "circumstance," let us look at this one. In the first place, it is not true that "almost everybody travels" in the sense of it as here used. It is not probable that one-fourth of city populations go sojourning in the country in the summer; and it is certain that nothing like that ratio of country people are travelers. And if they were, it is not the travelers out from us who contract malarial diseases. At least nine-tenths of the people in southern New England who have intermittent and the like remain at home all the year, except for a possible day or two of excursion. Lots of old people who never get out of hearing of the village meeting-house bell; infants whose travels extend only from the cradle to their mother's arms, have ague and fever as frequently and as ferociously as those who go tramping around—yea, more; for of those who travel a percentage visit sections where malarial diseases do not prevail, and so escape; or, having ague before they go, get rid of it *because* of the change. If the urban resident brings home with him a malarial fever from the country, it is because he has been into some bailiwick where malarial troubles prevail. The New York citizen who summers in the

White Mountains, or in the Adirondacks, or along the waters of the Penobscot, or of the St. Lawrence, does not take from thence an intermittent fever, for the good reason that intermittents do not get up in those regions. Going back fifteen years, he didn't take home with him an ague from a summer spent in the valley of the lower Connecticut, for the sufficient reason that the thing was not to be obtained there; but *now* quite likely he may, for the equally sufficient reason that an ague can be picked up in any of the towns in that section in any of the fifty-two weeks in the year. Before 1878 the New Yorker didn't import home with him a malarial fever from his residence in the Berkshire country, for the simple reason that the undetermined force or forces which institute an attack of that fever had then no abiding place in that region; but now he can pick one up there at almost any time. The Bostonian who visited Providence previous to 1880, and remained never so long, was in no danger of intermittent fever; now, if hes tays there any considerable length of time—judging from what has occurred through all southwestern Connecticut—he may contract some form of malarial disease. Going back twenty years, the resident on some of the upper parts of New York Island, or at Morrisania, or in portions of Brooklyn, and who had there the shakes, got away for a sojourn in the Connecticut valley, or on the head waters of the Housatonic, with the confident expectation, always realized, that the trouble would disappear. Now the matter is, in a measure, reversed.

It is not simply because people travel or sojourn, or change or expose themselves to the sun or to the night air, that they contract the malarial diseases: it is because they go into sections of country where the potential poison that induces the phenomena of the malarial diseases is, for the time being, abiding and in virulent activity. Further, it is not alone the strangers in these sections who have the malarial troubles: the old settlers, the inhabitants born and brought up there, suffer about the worst, for the possible reason that they are the nearest thoroughly saturated with the poison. It usually takes the visitor a little time to get pickled through, before the so-called miasmatic diseases begin to manifest themselves in him. The theory of country sojournment and of travel amounts only then to this: That the disease, as manifesting itself in a certain number of cases, is obtained in one place, and the victims go home with it to another; and the necessary predicate in these cases is that the place where the disease is got must be an ague-struck region. But the simple fact, that an ague is contracted in a certain locality, whether by a visitor or a permanent resident, is nothing whatever towards explaining what the essential essence of that ague is; it does not reach down to the bottom—the final, the *necessary* entity of the disease.

The "other circumstance," alluded to as a possible factor in the causation of malarial diseases, is "the greatly increased use of ice-water." Now, while it has been pretty well evidenced that in many instances typhoid and dysentery have been contracted from the use of ice and water charged with some poison capable of giving those troubles, it has not been shown that intermittent, remittent, etc.—the malarial group—have been obtained in that way in this section of country. There are no facts pointing in that direction. If a family which uses ice has ague, it is not thereby shown that the ice has any relation to the disease; if a dozen families, using ice, have ague, it is not shown. Dozens of families where ice-water is used, *do* have ague; there is no doubt of that; but in all the regions where intermittents and the allied diseases prevail, the families in which ice is not used have them just as much and as severely as those in which the ice is used. If my neighbor cools his throat with just the water from his well, and I cool mine with ice from a dirty pond, and we both have the shakes the same—and instances like this are of every-day occurrence—it is rational to infer that it is not my ice that is in fault, but that there is some other potency at work that has seized both of us. The writer has not used a dozen pounds of ice in his family in the last twelve years; but in every one of those years malarial troubles have been in the house. If you will go through the say four hundred thousand people in southwestern Connecticut, it is safe to say that it will be found that one-half of them, or more, do not use ice or ice-water at all; but you will find that they have intermittent fever, just the same as their neighbors who do use it. Besides, all the amount of ice used by the same people in the Connecticut Valley region up to 1870, of the people in all western Massachusetts up to 1878, and of the people in Rhode Island up to 1880, had not in it the power to generate a single case of intermittent fever. A man living now in central Connecticut, and using ten pounds of ice out of the river, is quite likely to have the ague; but the same man, living on the Aroostook, couldn't get an ague out of the consumption of a ton of the same common river product. It is not in the ice, but in the *places.*

Next to be mentioned is the thermal theory of Surgeon-General Oldham, of the British Army, from his observations in India. This is, that malaria is to be attributed to the debilitating, long-continued heat, or the sudden absorption of heat, following sudden changes of temperature—heat without the sudden alterations being powerless. This theory was modified by Reber, by attributing it to the "effect of heat upon the temperature centres of the body." Very much like is the proposition that what we call the phenomena of malaria is a "profound disorganization of the nervous mechanism that presides over the temperature of the body;" and "that this upsetting of the heat-regulating centre is likely to happen when the body has been exposed during the day to extreme solar heat and to fatigue, and to exposure at sun-down, and which will be severe in proportion to the rapid cooling of the ground, and the amount of vapor condensed in the lowest stratum of the air." This last proposition may seem profoundly deep, but it is as well distinctly foggy.

About these it may be said, that if we were considering of the causes of intermittent in some region of the world where it had always prevailed, and no satisfactory solution of its cause had obtained, and that region was in a latitude of extreme heat, like the country in which Oldham made his observations and worked up his treatise, we might consider it as having some basis of possibility of truth. But the region of country about which we are here talking is entirely different from that: it is a region in regard to which the writers on malarial causation are beginning to discover an unaccountable departure from the conditions laid down in some other countries as necessary for ague production. It is being conceded that none of the old malarial theories are adequate to account for the extreme prevalence of intermittent fever at present in southwestern New England. The thermal theory of Oldham has little acceptance in this region, for the reason that it is impossible to explain why on the same latitude, in a territory with the same general features, where the temperature and other climatic conditions are the same, the thermal forces should generate ague in one part ten years earlier than in another part, but twenty miles away, and twenty years earlier than in another part forty miles away. Why ague should prevail at New Haven with great severity in 1860, and not appear in Rhode Island till twenty years after, cannot be explained on the basis of heat or cold, or any differences of temperature whatever. If it is said there were differences, the simple reply is, that the statement is a pure assumption, for the truth of which there is neither proof nor evidence. Nor can it be shown that the thermal conditions in the valley of the Connecticut, during all the fifty years prior to 1870, were in any way different from those in the fourteen years since, or that they were any different in Rhode Island for the sixty years prior to 1880 than in the five years since that time. The speculations of Oldham may answer us towards ague in India, but they fail when applied to New England.

Another suggestion in relation to the etiology of the subject, which presents itself for examination, is the matter of the disturbance of the soil, especially in the construction of railroads and sewers, and in smaller degree of land-plowing and cellar digging, and other like things. Chief in this class of alleged causes are railroad making and sewer excavating, and first of these, railroad construction. In the examination of this matter I do not propose to go outside of the field included in our inquiries, for the sake of obtaining illustrations against the theory involved in that suggestion. Southern New England is well provided with railroads, and it is a serious, perhaps solemn fact, that along every one of them, in the southwestern part, the people have ague-and-fever badly. If ague comes in badly along a line of railroad being built, and there has never been any right there before, the short-sighted observer, confining his vision to his own close range, will say soil-disturbance is cause, intermittent effect. The logic is deemed quite sufficient; the evidence is before your eyes. Just this sort of argument is every day put forward, and every day accepted. But let us examine into it a little in detail. The road from New Haven to Hartford—one of the earliest roads in the country—was built forty-five or more years ago, but there was no ague along it for nearly or quite twenty-five years after; the line was extended to Springfield a few years later; but it was thirty years or more after its construction before there was a single case of intermittent fever between Hartford and Springfield; the road to Hartford, west, had been built twenty-five or thirty years before ague came in along it, and to the east, to

Providence, several years longer; the Shore Line road was finished ten or fifteen years before there was ague at the west end of it, and about thirty before the disease was at the east end; the New Haven and Northampton road, around the New Haven end of which there may have possibly been an occasional case of intermittent, at or before it was built, had no cases except at that south end for many years, and none of its northern part till twenty years or more afterwards; the roads running north from New London and Norwich into Massachusetts, and through Rhode Island north into the same State, were all built twenty, twenty-five, or thirty years before a case of ague was heard of near them; and so on. In short, taking the railroad system of New England, as a whole, it was built, finished, consolidated in structure, packed down, and to good degree its banks overgrown with a mild vegetation, years and years before ague came in along the róutes. The upturnings, excavations, transfers, fillings, the interruption of water courses, the ponding of surface-waters along the lines, the pond-holes made by dirt-diggings, all the disturbances put together, were not adequate to the origination of a solitary case of intermittent fever; there is no evidence that any malarial diseases occurred in connection with their construction. But with the short-sighted and faulty logic that is all the time being applied from the coincidence of disease existing alongside of and at the time of some supposed faulty condition of environment, it was taken for granted that when intermittent fever began along the line of the road from Saybrook, at the Sound, north to Hartford, and then on the extension, on the east side of the river, north to Springfield, *about* the time of the construction, that the disease was a consequence of the soil-disturbance in building the road. But if we admit this coincidence as to time, it is pertinent to inquire: If the construction of a railroad, up the valley of the Connecticut River, originated ague along it, why was it not obtained out of the earlier, similar, and identical kind of works? Like causes, under like conditions, should give like effects. The only difference in the conditions here was in point of time; and in the supposed causes there were not any. If the building of a road—say from Middletown to Hartford—caused intermittent fever, why did not the building of another road—say from Middletown to Berlin—at an earlier period, through a section much more favorable for ague, in its physical features, from the theoretical standpoint of earth-disturbance as a cause, give the same disease? The latter road had been built about twenty years before there was a case along it; and when there began to be cases along it there began, also, to be cases in all the section roundabout, entirely away from any possible influence from the road. Intermittent began along the Valley road *about* the time of its construction, not because the road was built, but because just about the time it was built the northeast progress of the malarial potency had brought it forward from the New Haven region into the Connecticut Valley region, just as its northern progress had taken it on a more westerly line, about the same distance north, up the Canal road, which was built twenty years earlier. It is about the construction of this road, from Saybrook north to Springfield, in two divisions, meeting at Hartford, that the arguments of malarial causation from railroad building in southern New England have been mostly drawn; because this is about the only line along which, to any really appreciable extent, the coincidence of time in construction and the appearance of ague-fever have occurred. And in order to make impregnable the position set forth, that the evidences that have been built out of it are illusory, and that the seeming relation between the soil-disturbance and the disease, as cause and effect, is dissipated by a knowledge of the actual facts in the case, it is only necessary to say that in the centre of the Connecticut Valley, in Connecticut, on the north and south line, at a point where the river bends farthest to the west, and is the nearest to the New Haven region, where ague had been previously prevailing, and from whence it was stretching itself out, at the very point where, from the configuration of the country, and the shorter distance, it would be reasonably supposed the progressing malarial disturbance would soonest reach the Connecticut River, and where it did soonest reach it, and crossed, in 1870, namely, at Middletown and Cromwell, on the west side, and Portland opposite, there had not been a shovelful of earth lifted for the construction of the road until *after* the intermittent had appeared. The disease, in point of time, had precedence of the road; the fire had been set, and the conflagration was under head, before the accused-of-arson had arrived to kindle it. This ought to settle that matter. But, in corroboration of the position we are taking, upon the subject of road-building, as related to malarial etiology, it may be added that at the *time* this road was being constructed, and when intermitttent was at some points along it making a first appearance, at other points along it the disease did not appear till two, three, four years after it was finished for use, and the soil-disturbance had mostly ceased; and, at the same time, the disease was making its appearance at a great many other points in southwest New England, where no roads were being built, and never had been built. Crossed and recrossed as southern New England is with railways, there are still a great many places so far away from any steam line as to be quite removed from any influence from soil-disturbance in connection with them; but they have intermittent fever just the same. There is scarcely a valley in all the region, or an upland, or a hill that harbors people, but has also harbored fever-and-ague. There are still sections through which no railroad has ever been built, and where, on the theory of soil-disturbance as a cause, there ought never to have been any malarial disease; but, just the same, the inhabitants have all the forms of so-called miasmatic troubles. The reasonable consideration of these facts—the concurrence of the positive evidence of railroad construction at a great many places over the space of a great many years, without the evolution of a solitary case of ague out of the operations, with the negative evidence from the appearance of ague at a later period at hundreds of points where no like or similar operations had ever been carried on—leaves the deduction of earth-disturbance as the factor of ague-fever in the territory under consideration without a substantial basis of support; the logical mind cannot accept it.

The arguments here applied against earth-disturbance as the etiological factor of malaria in this region, from the construction of roads, will hold as against sewer construction, cellar-digging, and other the like interferences with the ground. The excavations for sewers and cellars, and for the grading of the ordinary roadways, in city or in country, involve disturbances of practically the same character as for the building of railroads, and offer no other points on which to base a theory. It is true enough that at any time after about 1872 in Hartford, and after about 1877 in Springfield, and after about 1882 in Providence, and since, and perhaps before 1860, in New Haven—at the latter place in some years, at least—the excavations for sewers, etc., have been *accompanied* at some times, to a greater or less degree, with the manifestations of malarial diseases. In the country it is frequently remarked that when a new cellar has been dug, some one person or more in the neighborhood will have intermittent. There isn't any doubt about this at all; hundreds of such instances have been cited; medical literature is loaded with examples of that sort; and after citing the examples, it is triumphantly asserted that here we have the proof positive of tangible and unquestioned cause. We are told that these facts, in relation to malarial appearances, cannot be ignored. I have no disposition to either deny or ignore them. I admit the facts; from personal observation I know the facts (using a doubled expression) are *true*, but I demur at the deductions that are made from them, and for these reasons:

As has been shown, it is doubtful if malarial diseases have been entirely absent from some parts of the New Haven region for many consecutive years at any one time for the last half century or longer. Accepting this, it might have any time seemed, when a case of ague was discovered, that there might be some connection between it and a recently built or recently reopened sewer or a newly dug cellar. At any place where ague had developed itself every year from the time of its settlement, it would be difficult to logically demonstrate that what are called improvements, constantly going on in the shape of sewers, new streets, etc., had no connection at all with the constantly or frequently appearing ague. New Haven may approximate too near this condition to allow of the application of our argument to the relations that have existed there. But if we go to Hartford, we shall find that for very many years back of 1872 cellars had been dug, sewers had been excavated for, gas and water pipes had been put down, new streets had been laid out and graded to some extent, and yet out of it all there had not been developed a solitary case of intermittent fever! Go to Springfield, and previous to about 1877 you learn the like history. Visit Providence, and up to about 1880 there is the same story. And why? As said before, like causes, under like conditions, ought to give like effects. They would; but the conditions before and after the years named were not exactly alike. At Hartford about 1872, at Springfield about 1877, at Providence about 1880, *one* condition came in that had not before existed; a new factor—the potential, the essential, the *necessary* factor—without the presence of which all the excavation possible to be made, for any purpose whatever, was utterly impotent for the production of a single case of intermittent fever, and *with* the presence of which intermittent comes in in the total absence of all excavation and without the removal of a single load of dirt or the disturbance of a single stone. What is true of the cities named is true of Meriden, New Britain, Middletown, New London, Norwich, in Connecticut; of Newport, Woonsocket, and Pawtucket in Rhode Island—in every place where sewers have been built and pipes laid down. What is true in this connection, as to the places that have sewers, is applicable to the towns where there are none. Up to certain pretty definite dates, mostly fixed and certain, no amount of cellar-digging or earth-disturbance of any kind was accompanied with malarial disease; after those dates malarial disease appeared where cellars were dug and where they were not dug, alike. There are plenty of rural localities in all southwestern New England which were practically finished years ago, and in which there has been scarcely a new cellar dug, or any extra earth-disturbance of any sort been made, but in which ague in proportion to population is just as active as in places where the earth-disturbance has been the greatest. Ignoring this plain, palpable, unquestioned truth, the explorer after malarial causation seizes upon the fact that a case or several cases of intermittent have come in in the neighborhood of some earth-upheaval, and indicts it as the criminal, putting to one side entirely the other fact that at some other point, more or less remote, where there has been no earth-upheaval nor any other thing the like, intermittent is present just the same, and no less in the number of cases or the degree of virulence.

Something is to be said as to the emanations from sewers, etc., after they are put to use. In the cities it is a favorite theory that the sewers breed intermittent fever. The fallacy of this supposition will appear when it is noticed that it is not alone around sewers or other like foul contrivances of urban civilization that ague and fever has a home. In the open country, miles removed from the receptacles and channels of filth and effluvia, ague is just as prevalent; it is generally thought to be more prevalent in proportion to the material to be acted on. Whether less or more does not matter. The certain fact here is that neither sewer emanations, nor any other like thereto, is necessary to the prevalence of the trouble. When ague is to be found in almost every rural town in southwest New England, miles removed from any possible relation to sewer filth or any other like cause, the mere fact that it also prevails in the neighborhood of a sewer in a city in the same region affords not even a shadow of proof that the sewer has anything to do with it. Further, it is to be observed that sewers have been in service in the larger cities of southern New England for years before malarial diseases appeared in them; they were not less foul in all the years previous to the appearance of the ague than since. If the sewers of Hartford could not manufacture a case of intermittent previous to 1870, nor those of Springfield before 1877, nor those of Providence till after 1880, by what reasonable logic can it be shown that they have had the capacity to do it since then? The reasons for this difference (if there is a difference) must be demonstrated before the caustic inquirer can understandingly accept sewer emanations as adequate for the origination of fever and ague.

There is to be mentioned what has been by some writers called the theory of aërial transmissions as causative of ague; but it is to be said that it is not really a theory of cause; but a theory of the diffusion of cause; to have an aërial transmission there must first be the thing to transmit. It is not the purpose of this paper to attempt accounting for the *way* in which ague has been progressively carried over our territory, whether upon the wings of the wind, lodging here and there, or by continuous soil-propagation, or in some other manner. But as in a way connected with this point of the vehicle of diffusion, or method of spread, there may come in the notion not infrequently entertained that in some way the pollution of streams is a factor of ague poisoning, or at least that the streams are the roads of conveyance of the poison. But it is to be kept in mind in relation to the travel of the epidemic we have in hand, that it has been *up* the streams. Now, it is incontrovertible that the source of a river cannot be tainted from its mouth; the adit is not poisoned from the exit; the fountain is not contaminated by emanations from the embouchure. Filth does not flow upward from the mouth of the Housatonic River at Bridgeport into Berkshire County, nor up the Connecticut from Saybrook into Hampden. If it is said that the filth has been emptied in above and advertised itself below in the form of ague, the refutation is to be had in the fact that the nearer the affected point below is to the source of the filth, the more potent will be the result, and the soonest made manifest; whereas, in this case, the first appearances of trouble have been at places remote from the theatres of first contamination. Nor can it be shown why filth entering the same stream for twenty or thirty years should not cause ague in any one of them, and then suddenly begin and continue it for every one of the ten or twenty years thereafter.

Another theory, for a time quite prevalent in some sections, was, "that the germs of malaria were imported by soldiers returning to their homes from campaigns in malarious districts." True indeed, in *some* places, ague came in about the time the soldiers were returning; in some towns the first cases of ague seen were in the persons of returning soldiers. These facts were quite sufficient to build up a theory on. But if we look abroad from the places where the beginnings of malaria were coincident with the return of the soldiers we find that in many other places ague began long before the soldiers came home, and in other places it did not begin till ten, fifteen, nearly twenty years after their return. Whether ague led, came along with, or a long time after followed, the army man, depended upon the place. It preceded him at the southwest, came with him nearer the central parts of Connecticut west of the river, but was increasingly behind farther and farther east. About Bridgeport in 1854, about New Haven from 1850 to 1856, there was ague; but there were no soldiers returning home from malarial districts, and no campaigns in malarial districts for soldiers to come home from. Further, although after the return of our soldiers in 1865, there were cases of intermittent in the southwestern part of Connecticut, in the towns of the northern and eastern parts there were none, nor in Massachusetts nor in Rhode Island, though they received their proportions of veterans from the same regiments and the same sections of Southern country. If returning soldiers "imported" ague into one county, why did they not also import it into all the others?

There are also to be taken into account the theories of the deficiency or the excess of ozone in the atmosphere, and disturbances of electrical forces—activities, abatements, perturbances—about which we know nothing as related to the prevalence of intermittent or any other fever. In the absence of other defensible and received theories of cause, ozone and electricity are two forces that have been conjectured to stand in the relation of cause to malaria, but in what manner has never been shown. There is sufficient reason for discarding them in the inability of any one to explain why the effects of increased or diminished ozone or electricity should be so potent forseveral continuous years in one section, and so utterly imbecile in another, but few miles away, on the same lines of latitude, all other conditions being indentical. The theories are rather amusing than deserving of acceptance.

I have thus alluded to *some* of the conjectural causes of intermittent fever. There still remain unnoticed an indefinite number, which the limits of an ordinary essay will not allow discussion of. Those we have considered are among the more possibly defensible ones, with the exception of two or three especially prominent, which must engage our attention.

Conspicuous among these is the paludal theory. Of late the term malaria has been stretched to cover in all kinds of noxious emanations. Restricted to an older understanding of what was implied in it as applicable to the generation of intermittent and remittent fevers, it meant marsh miasm—a specific and particular thing, capable of producing the particular class of diseases, and *necessary* for their production; no other thing, or condition, or force, or combination of forces, being adequate thereto. To the generation of this marsh miasm, this paludal poison, this essential essence, three factors were held to be necessary, either actively engaged or else having been engaged, and leaving the product of their labor in a state of latency, ready to be diffused abroad upon sufficient provocation. These three factors have for long constituted the malarial trinity. They were first distinctly promulgated as the god of intermittent fever by Lancisi. The modifications that have been made in this theory, the additions to, the subtractions from, the torturings of, the perhapses appended, to from time to time suit it to the differing conditions under which fever and ague in different places has appeared, are so diverse as to be beyond our enumeration and so contradictory as to be absurd. Reduced to a comprehensive formula, it is thus stated—and I quote here the language of a prominent sanitary engineer (General Veile), who is supposed to know all about it: "There are three elements that observation has determined upon as being essential to the production of malaria. These are heat, moisture, and decomposition. The latter presupposes material for decomposition, which must, of course, be organic. It is well established everywhere throughout the world that wherever there is present a large amount of decomposing organic matter, in connection with the requisite amount of heat (which must be over 52°) and of moisture, there are wide-spread malarial influences." This is the substance of the text of the doctrine of intermittent from marsh miasm. Latterly it is spread around to include not only marshes proper, swamps, and the like, but all lowlying places, rivers, brooks, ponds, etc., and has finally become so diffused as to cover not only stagnant but living waters, and every part of the earth's surface where a drop of rain falls or a particle of dew is condensed, and it has been spread around in an abortive attempt to account for all the manifestations that are in contradiction to the postulate of the miasm trinitarians.

In proposing to examine into the validity of this old postulate, it may in the first place be said of it that it has not been proven, and in the second place that *it is not true.* When a proposition of the causation of intermittent fever is put forward, it is the bounden duty of the man who makes it to prove its truth. But yielding this reasonable demand, I propose to take the offensive and endeavor to show *why* the old postulate is not true.

It has *not* been determined, as is asserted, that the three factors, "heat, moisture, and decomposition, are essential to the production of malaria." It is not my purpose in this paper to go, to any great extent, out of the geographical limits of southern New England for illustrative material in defence of my positions; but at this point I shall venture abroad to a limited extent. And in the first place I quote the admission, recently made, of Dr. Smart of the army (U. S.), that "malaria is a disease that knows no latitude nor longitude, and prevails at any altitude." It is acknowledged to be an inhabitant of the arctic regions. In this country it has been found as far north as Hudson's Bay. In the regions where it is at all prevalent, it is active in every month of the year; zero weather does not kill the disease in those who have it, nor prevent its appearance in many who have never been troubled with it before. These last facts eliminate the *necessity* of heat for the production of the trouble. Professor Chadbourne (late of Williams College) found intermittent fever in the Rocky Mountains, "where the few streams flowing from the melting snows are as pure as our New England trout-brooks, and most of the soil is poor in organic matter." I quote him further as saying that "malaria abounds in wet and dry places, in valleys and on mountains. It appears in places where it has before been unknown, without any change of condition that can be seen." Fifty years ago or more Dr. Wm. Ferguson, in relation to this matter said: "Vegetation is not necessary; the peculiar poison may abound where there is no decaying vegetable matter and no vegetable matter to decay." As in proof of this, he states that, at Rosendaal and Oosterhoust, in Holland, where an English army was encamped in 1794, "the soil in both places was a level plain of sand, with a perfectly dry surface, where no vegetation existed, or *could* exist, but stunted heath plants;" but fever of the remittent and intermittent type appeared in great abundance. The soil at the encampment of a British army, on the Island of Walcheren, where 7,000 of the troops died in six weeks of a malarial fever, in 1807, was a fine white sand, without the presence of any vegetable decomposition whatever.

Instances of examples like these might be given to almost any length; but a single one is all that is necessary to our argument. If anywhere, at any time, in even a single instance, there has been an outbreak of intermittent fever where the three alleged necessary factors were not co-ordinated, that fact becomes the proof that the proposition is without vitality—the chain of evidence is broken, and the force claimed for it is demonstrated not to exist. So apparent was this to the logical mind of that astute observer, Sir Thomas Watson, that fifty years ago he put on record—"The prevailing belief is, in my opinion, an *erroneous one*. Very strong facts have been adduced to show that the decomposition of vegetable substances is only an accompaniment, though a frequent accompaniment, of the miasm, and not by any means an essential condition of its evolution. The decomposition of vegetable matter goes on abundantly without the production of malaria. The rotten cabbage leaves which taint the air from the neglected dirt-holes of London during the hot weather of summer give rise to no ague. The same may be said of the putrefying and offensive sea-weed which is deposited in large quantities upon some very healthy parts of our sea-coast." He further adds, "Marshes are not necessary to produce malaria."

Going a little further outside, allusion may be made to the Roman Campagna—that so-often quoted fearful region for the production of paludal fever because an alleged undrained region. Respecting this, the Connecticut Health Board Report for 1882 states—presumably upon good knowledge—"The argu ment of the Roman Campagna in its (Lancisi's paludal theory) favor is now lost, as it has been recently shown that four-fifths of it is composed of hills rising gradually to the volcanic mountains of the Palatine system on the north, and of the Latian system on the south, and malaria is as prevalent on these hills as on the lower ground." And further, "The literature of malaria also shows that hills, plateaus and cliffs were as often, if not oftener, more severely affected than were adjacent lowlands." These admissions undermine the marsh miasm theory. Being undermined, the advocates of the theory fall back upon the existence of sub-soil water. As to sub-soil water, it seems simply necessary to observe that how all the sub-soil water in regions of New England, for fifty or a hundred years in succession, should be utterly unable to aid other factors so sufficiently as to produce intermittent fever, and then should suddenly be able to do it for every season ten or twenty years in succecssion in the same territory, is as beyond explanation as it is beyond belief that it could do it.

Returning to our own territory, and proceeding to consider the affirmation that heat, moisture, and vegetation in decomposition originate intermittent fever, from the standpoint of the facts presented in our territory, and it will appear—that into the region we have been considering, through all of which but the southwest corner, for very many years previous to the decade from 1860 to 1870, and in other parts of it up to 1880, indigenous intermittent and other so-called malarial disorders had no heritage, save in a very few instances, as the advance-guards of an invading host; there came rather suddenly and progressively some mysterious potency that made these disorders *very* prevalent. The general advent and advance over the country was so nearly related in point of time as to constitute it a simultaneous wave. Now, I assert, that if this introduction of intermittent fever was dependent upon heat, moisture, and vegetable decay, over all the region where it has spread, no human intelligence can explain why it had not come before. Between the quantity and quality of heat, moisture, and decomposition in the valley of the lower Connecticut before 1870 and since then; between the quantity and quality of the same things through the Berkshire hills previous to 1878 and after that date; between the condition of the same three factors in eastern Connecticut and in Rhode Island up to 1880 and subsequent to that date—there has been no such difference in themselves as could possibly convert an absolutely inert condition of combinations for the production of malaria into a condition of the most efficient activity for the origination of that trouble. Neither considered as a whole, or as in large divisions, or in the details of its rivers, ponds, marshes, earth changes, additions, denudations, floods, nor in any other thing possible to name, nor in its temperature, nor in its rainfall, nor in any other way, can such change be pointed out as will justify the opinion that the origination of the essential essence of intermittent fever could lie in those changes, or that the material in it, or the action of heat and moisture upon that material, could evolve out of the material any disease which before it was incompetent to produce. For the appearance of ague no such changes are necessary; but the introduction of some *other factor is.*

The facts gathered and presented in relation to the present ague manifestations in southern New England, and the irresistible logic that follows from an examination of the facts, justify these conclusions: That undetermined, and hypothetical factor, which, for want of a more appropriate name, we call malaria, is not dependent for its existence upon marshes, or ponds, or earth-disturbance, or filth, or sewer emanations, or vegetable decomposition, or any other the like thing; it presents itself independently of, away from, and beyond the influence of them; it thrusts itself into notice at one point where these things are present, and at another point where they are not, and again is for generations wanting where they are in the fulness of all their separate activities; and further, they are none of them competent to originate a single case of ague until they have been impregnated with some force or principle from without. And this impregnation, with the after-powers of development and evolution, is only matter of conjecture. It is true that in the neighborhood of certain ponds, and around some particular marshes, or along the bank of some river, intermittent will be especially prevalent at some times; but at some other time, or at the same time, it is absolutely certain that it will be just as frequent and as ferocious, in proportion to the density of the population, at some other point more or less remote from marsh, or pond, or river. Abundant instances of this could be given if limit permitted. The fact that at many points in New England where ague has prevailed, the populations are clustered around some mill-pond or into a valley, has made a greater prevalence of disease at those points apparent when it was not real. This has been overlooked in the consideration of the etiology of the disease. But if around some pond or marsh ague is prevalent, the question of whether the poison ever at all emanates from the marsh, or simply finds about it a more congenial dwelling place, is not *determined*, any more than it is *not* determined that the dweller on the hill-top or on the plain has procured his ague from the environments of his own domicile. When the family living by the marsh contract intermittent, it is the fashion to charge it to the account of the marsh; but when another family, living on the hill, wind-swept from the north, beyond the influence of the marsh, also have intermittent, what then? Let it be understood, I am not herein questioning over suppositious cases; I am questioning of the actualities that occur. But if we allow that the ague-poison emanates from the marsh—that it is bred there and issues forth—there still remains the necessity that first the exact thing, the essential factor, the specific cause, the ultimate potency, shall be lodged there from without. The foulest swamp in New England is as incompetent to originate the poison of intermittent fever till it has been fructified by some other agency as the brook is to produce trout until it has first been stocked with trout or with the fecundated eggs of them. The river is not the *father* of the fish—it is simply the *home* of it; the fish is bred *within* but not *from* it; it is begotten there by its ancestor of the same type, and only of that ancestor. The river may exist from eternity; but so far as we know anything of the sequence of order in nature, it is utterly impotent for the generation of a single scale until the primordial antetype of that scale has been implanted within it. So also the marsh is not the parent of what we call the paludal poison; it is a home where it seems to abide, and in perhaps a greater abundance than at some other points, though not its only nor its necessary home. It is a place around or in which it may more closely congregate, and where it is possibly more prolifically multiplied; but of itself, however foul it may be from vegetable decomposition and the debris of years, it is incompetent for the production of a single particle of the especial essence that induces the phenomena of intermittent fever until that especial essence has first been engrafted into it. This postulate is a logical corrollary from the facts which the invasion of our territory by ague and fever fully justifies, and which it seems impossible reasonably to avoid. It contains the sum of admisions in favor of ague emanations from marshes that the facts evidence, and more than they prove. The doctrine that intermittent is due to vegetable decomposition, in the sense in which it has obtained, is not defensible before the facts; it is a fallacious deduction from coincident conditions, and only fallacious.

And this brings us to the proper place for some observations upon the instability of deductions made from the coincidence of admitted facts in relation to the etiology of diseases, in its bearing upon this matter. There is a dominating tendency in most minds to draw their inferences from coincidences without thoroughly enough probing them; but exacting science is not satisfied with resting upon the presumption that because a certain disease is found, in no matter how many instances, in contiguity with certain assumed vicious environments, that the environments stand in the relation of cause; and especially it is not satisfied if it at the same time appears that the same disease, in a not less pronounced and vigorous activity, is prevalent in some other places where the same or any other like vicious environments do not exist. This is exactly the condition we are in in relation to the matter in hand.

In an endeavor to make my meaning clear, I will attempt some illustration, from another subject. Some years ago, in a central city of Connecticut, there was an almost total abandonment of the old wells for domestic purposes and for drinking, and the substitution of river water. Not very long after, the physicians began to observe that they had less typhoid fever than formerly. I remember hearing those physicians say that the diminution in typhoid was due to the change in drinking-water from the old well to the river. There was certainly the coincidence; and the deduction of effect from cause was not unreasonable, and seemed legitimate, and could not readily be controverted. The evidence of connection was precisely the same as is often argued from the diminution of intermittent after the extirpation of a suspected pond or swamp. There was a connection apparently real, but in reality only apparent. The invalidity of the supposition was shown by the fact, soon appearing, that not in the city alone about that time, but in all the rural towns about, where the people continued to use their old wells the same as before, the diminution—the almost utter absence in some places—of typhoid fever, was not less manifest, showing that not the substitution of one sort of drinking water for another, but some influence beyond that, affecting rural and urban locality alike, had wrought the change. A few years since there was reported to the Connecticut Medical Society the appearance in a family of five cases of typhoid at about the same time, four of them fatal; and the *cause* was attributed to the fact that there was standing water in the cellar of the house where the family lived; it was taken for granted that the coincidence of the wet cellar settled the question of typhoid production. But, farther on in the paper reporting the cases, it appeared that the first of those five persons sick had been living in another town, was there attacked with the fever, and brought home with it rioting in his system; from which it will be reasonable to question, when we consider that typhoid has in it the element of either direct or indirect contagiousness, whether the wet cellar had anything at all to do with the four other cases of the same disease in that family.

These relations will aid us to see that if a substantial basis for theories is desired, we must not be satisfied with deductions from the bare coincidences of time and place. The present tendency of a considerable part of the professonal men is determined towards discovering in some local surrounding the prime cause of not only such epidemics of disease as we are considering, but of every sporadic case as well; following the tendency, we arrive at conclusions that do not stand the test of logical examination.

Applying this to intermittent as we have seen it in New England—caustic interrogation exposes the fallacy of many deductions as to its cause based wholly upon contiguity. When you encounter a sluggish stream, or a spread of marsh, which presents the conditions claimed to be requisite for the development of ague—heat, moisture, and decaying vegetation admittedly present—and learn that the people living near them have that trouble, the first seemingly reasonable and legitimate deduction is that the origin of the ague is in the stream or marsh. But when you learn that the banks of that stream, or the regions in the neighborhood of that marsh, have been peopled for two hundred years or more, and that there have been no changes made there in three generations, either of dams, clearings, drainage, or other sort, or perhaps never, and that from the first, or certainly not within the memory of the oldest inhabitant, was a case of ague ever known about them until at the same time the same trouble made its appearance in other towns all around, and this within the last ten or five years, you are constrained to ask—If this stream, or this marsh, is the mother of malaria, why have they been unfruitful until now? and you ask a question that no man can answer except upon the supposition that some new element has been introduced into the neighborhood. Proceeding farther in this direction: When you find intermittent fever charged to the presence of a new pond, or of an old one lately drained, or to a recently excavated cellar, or to the construction of a new sewer, or to the pollution of a brook, or to the saturation of the soil from a pig-pen, or to the contiguity of a privy to a well, or to the rotten garbage in the cellar, or to the filth of the sink drain (and all these things are in turn accused of producing ague), and you look around and observe the presence of one or more of them, it may not, at first thought, require any stretch of the imagination to accept these suspects as the guilty factors. But when the inquisitive and captious critic—that disagreeable individual who is always asking questions you cannot answer—demands to know how it is that all these things, so direfully pestiferous in every year of this decade, were utterly imbecile in the generation of a solitary case of intermittent, in exactly the same territory, in any year of the ten decades before, he presents for your consideration a problem with which you find yourself incompetent to wrestle successfully. And when he further insists upon the reason why, while the ponds, marshes, cess-pools, pig-styes, open sewers, sink-drains, etc., were actively breeding the germs of ague in the southwestern section of Connecticut before and up to 1865, the equally foul and reeking etceteras of the Connecticut Valley could not generate any till after 1870, and those of Rhode Island till after 1879—all on the same latitude—you will not fail to see the illogical logic that exists in basing ague deductions upon real or supposed faulty environment. And when further you consider (what is admitted to be true) that in the progress of this ague-epidemic it has put in its appearance at numberless points where no indigenous cases of it had been known for several generations, and without any change in the physical features of the country at those points, an insistance upon the necessity of some other factor than those of heat, moisture, and vegetable decay will seem to be an essentiality of ague production. What effect the presence of the old malarial trinity, or other forms of supposed cause, may have upon the continuance or the intensity of the malarial diseases after their introduction, is not a matter properly in the purpose of this paper to talk about.

To if possible make more clear the correctness of my position, as to the failure there is, in relation to the etiology of intermittent fever, in deducing cause out of contiguous swamp, river, pond, or other surrounding, I will allude again to the Berkshire malaria trial, and to one point of evidence therein presented, which will help to illustrate my meaning. At the point on the Housatonic River where the pond of the defendants was, it appeared there had been a smaller one since the first settlement by the English. In 1842 it was enlarged by raising the dam, and again in 1865, and again in 1870, till there was an overflow of 280 acres. In 1878 intermittent fever began all about that pond, and prevailed there. It was claimed that the existence of the pond, and especially its enlargement, produced the ague. Now it is to be admitted about this case, that, at first thought, it would obviously present itself to many minds that the pond was the potential cause of trouble. The first face of the thing looks that way. Adopting the marsh miasm theory of heat, moisture, vegetable material to decay, as adequate to the the evolution of ague, and as also necessary to it, and the conditions existed. The prosecution held that if the dam had not been there the intermittent would not have appeared; and, if the vision of the jury, in their consideration of the case, could have been confined to the immediate location, the prosecution would have been successful. But it was put before the jury that over the southwest section of New England there were hundreds of ponds which had not been enlarged, around which ague had come in the same; that in other sections there were other ponds that *had* been enlarged and the disease had not come in; and further, that up the valley of the Connecticut, from Saybrook north for seventy miles, in every town along the banks of which for about ten years previous to the time of that trial ague had extensively prevailed, there was not nor ever had been any dam at all, nor any impediment to the natural flow of the river. The consideration of these facts, along with all the other facts connected with the present ague invasion of New England, compelled the conclusion that the existence of a pond was not a necessity for intermittent, and that the disease would have come in at that particular point, in the course of its irresistible progress, just the same if there had been no pond there; and the illegitimacy of deducing ague-production from the contiguity of the supposed factors of it was made apparent. I repeat—the deduction of paludal poison from the coincidence of the miasm trinity is fallacious, and does not stand before a critical presentation of the facts accompanying the present epidemic of ague in New England.

This brings us to some consideration of the last theory of importance as to the cause of the so-called malarial diseases. It will be observed that so far in this paper I have avoided the subject of "germs." What is meant by "germs," as the word is used by writers on etiology, is not always clear. It is sometimes used in the sense of meaning an animate microscopic organism, endowed with animal life, and sometimes as an inanimate but living vegetable organism, and again as meaning only a *principle* of vitality. I have used the terms "potentiality", "essential essence", "necessary factor", etc., without having in hand a definite belief of exactly what it consisted of—whether animate bacillus, vegetable fungus, or imponderable force. I have only insisted upon the introduction of some theretofore new principle, or power, or thing, adequate to the origination of ague, with or without the existence of vegetable decomposition; but as to what that power, or principle, or thing is, I have no *convictions*. When one has for long fought over the field in insistance of the inadequacy of the old paludal theory to explain the appearance of ague in our boundaries, it is a satisfaction to see the ground being gradually yielded before the irresistible logic of events. As an instance in illustration of what is here meant, let us take a recent utterance by Dr. Sternberg, of the army, in a paper hereinbefore alluded to. While still insisting upon the necessity of the presence of heat, moisture, and vegetation, decaying or decayed, he makes this admission—"But as there is, in all probability, another *essential element* in the operation, an unknown biological factor," etc.,—thus virtually yielding the principal position of the paludal theorists. Just what is meant by the term "biological factor" is not quite clear. A biological factor, strictly speaking, is a life-force, but not a living organism; it is a principle, or power, but not a thing; it is something, if not akin to, yet like the principle or force of magnetism, imponderable, and without substance or weight, but with vast capacities; it is perhaps like the principle of vitality, and like that, ungraspable, and beyond finite reach; but it is not a germ, an organized entity, a bacillus, with form and proportion and propagating power. Now if by "biological factor" is meant simply a principle like the principle of vitality, an attempt to enter upon the discussion of it in its relation to the etiology of ague would be an attempt to enter upon the discussion of a subject about which we are too profoundly ignorant to throw any light upon, and had better therefore be dismissed. But if by "biological factor" is meant a germ, or the germ—the bacillus malaria—then there is to be said of it, that while proof of its existence in connection with New England ague is wanting, perhaps because of its absence, and perhaps simply because we have not reached after it in the right manner and with requisite investigation—the logic of events connected with the spread of intermittent points more markedly in the direction of it than in any other. That some germ, or spore, adequate for the production of ague, and requisite for it, implanted upon our soil, propagating there, emanating out of it, diffused, and making new lodgments for further increase and further spread, is theorizing in the direction of the manifestations offered by the advent and progress of intermittent fever in southern New England. It is the only theory presented that critical examination does not undermine; whether it will stand the test of final investigation is still to be determined. Based upon what we know of the history of epidemics, and of how little we know of the laws that govern them, my impression is that the physician of 1985 will doubtingly discuss the etiology of intermittent in like manner as the physician of to-day discusses it, and as before did the physician of 1785.

Into any relation of the investigations of the germ theory of malarial diseases, I do not propose to go. The experiments of Lanzi, and Terrigi, of Crudelli, and of Klebs, and others, are written up, and generally known to the profession. They have been controverted; their virtue and their vitality are yet to be determined. While not so sufficiently satisfactory as to be convincing, they have not been exploded, and must be left to the tests of time and further investigation.

As medical minds still differ over the origin and the potentialities of those demons of destruction, yellow fever and cholera, so they will likely continue to differ over the origin and progress of intermittent fever; and though the problem is not resolved by discussion, discussion is not altogether profitless.

This paper is already long. Despite all we know of life and its phenomena, there still remain some things connected with it that are beyond human grasp. The principle of vitality is unsolvable by human intelligence. It is not given to us to compass all the reaches of the Infinite. The limit of power reached, and there rises up the obstacle of human inability. As in that thing nearest to us—our own being, our own pathological and vital existence—there lives a principle so subtile as to be beyond grasp, so also there may be potencies, adequate to the accomplishment of the inevitable change, that are beyond the recognition of our intelligence.

In closing I wish to repeat, and to emphasize, a conclusion before put in type in this relation. The conclusion is not a bold prophesy made without justifiable basis, but is rather only a reasonable deduction to be easily obtained from the history of epidemic diseases. That conclusion is—ultimately the so-called malarial diseases will disappear from most of those parts of New England now infested with them. Silently, but not suddenly, they will be gone, and as mysteriously as they have entered. About the apparently pestiferous marsh, where for several years there have been many cases, no amount of the most careless exposure will develop a solitary straggler. New railroads may be built, new sewers constructed, new streets laid out, ponds be made, and ponds be emptied, garbage be left to rot, and filth to accumulate, swamps be drained or be left undrained—all the same, intermittent fever will not be provoked into existence in a single case; and we shall be as ignorant of the cause of its exit as we have been of the reason of its entrance.

Rocky Hill, Conn., May, 1885.

ARTICLE IV.

INTUSSUSCEPTION, OR INTESTINAL INVAGINATION.* By C. S. WOOD, M.D., New York.

CASE.—Eddie M., eight years of age, of rather delicate organization (although parents are both healthy), the eldest of a family of three children, was suddenly attacked on the 14th of July, 1884, when he was in his usual health, his bowels having been regular and appetite good, with what the mother called dysentery, viz., constant griping pains in the bowels, frequent desire to evacuate the same, which gave him no satisfaction and afforded him no relief; discharges very slight, consisting of bloody mucus, much straining and tenesmus with each attempt, constant pain during the intervals, vomiting from the commencement, not only when food or liquid was taken into the stomach, but at other times as well; thirst great, constantly calling for ice-water; complete anorexia; bowels had been, previous to the attack, perfectly regular, so far as the mother knew. He had the day previous been eating some green apples, which were supposed by the family to have been the cause of the present trouble. From all the symptoms it was naturally inferred by me that we had to deal with a case of invagination, and probably at the ileo-cæcal valve. On examination found the abdomen tympanitic to a certain extent, but more over the lower portion, with an oblong hardness slightly to the left of the median line, but with the exquisite tenderness of the bowels and the restlessness of the child, could not make a satisfactory examination; therefore applied hot water stupes over the whole abdomen and gave him one-eighth grain morph. sulph., to be repeated in three hours; to be kept quiet and allowed to have ice in his mouth as often as desired. Saw him again in the course of the day, when I found him more quiet from the morphia, although he had slept none, less disposition to go to stool, but when he did so the character of the discharges the same, more vomiting and a greater amount of tympanites; could now only define more tenderness and hardness over the lower part of the abdomen. On passing my finger into the rectum its whole length, could detect nothing abnormal.

Pulse 120, temperature 103½. Being now confirmed in my previous diagnosis, I procured a Davidson syringe, to which was attached a tube about six inches long, belonging to my stomach pump; placed him in the knee-chest position, and had him held in this position while I injected a quart or more of warm water, which was retained a few minutes, and when it was passed off another injection was used, filling the bowel to its full capacity, but with no relief to the symptoms. Ordered the injections to be used every two hours, morphine to be given as often as necessary to ensure rest and quiet, and the hot applications to be frequently changed and continued.

Found him on the morning of the 18th with all the symptoms aggravated; had passed a very restless night, sleeping only a few minutes at a time, owing to the continual retching and attempts at vomiting, one characteristic of the latter being its projectile or explosive appearance. He would, after being quiet a few moments, suddenly spring up and call for a vessel, but before one could reach him the vomited matter would be thrown, not only over the bed, but half way across the room, reminding one of cholera cases, so far as this one symptom was concerned, especially if he was allowed to drink anything, which he so greatly craved. In some of the vomited matter fæcal odor was plainly distinguished.

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*Read at a meeting of the New York County Medical Association held June 15, 1885.

General peritonitis had supervened, having apparently commenced at a point a little below the umbilicus; excessive tympanites, with tenderness so great as to preclude any critical examination. Pulse 130, temperature 104.

Milk with ice was almost the only thing in the way of nourishment that his stomach would retain, and but little of that, although other things, such as beef tea, chicken broth, etc., were tried.

It now having been forty-eight hours since the commencement of the symptoms, the question naturally arose in my mind whether to call in assistance, perform laparotomy, and make an effort to find the point of obstruction and take the chances of not being able to relieve it even when found, or to trust to the continuance of the same course as already adopted, by which means I had seen some desperate cases recover; and after weighing all the chances, I determined to pursue the latter course, especially with the facts staring me in the face that most of the cases of this character die where an operation is performed.

The following course was accordingly adopted: Gave him a large enema with the position of the body nearly reversed, or the head and shoulders low, and the hips elevated. Ordered this process to be repeated every three hours sometimes adding to the water a few drops of turpentine, and at others, essence of peppermint. One granule, every hour, containing 1-10 grain calomel; morphine sufficiently often to relieve the pain and procure rest, which was usually 1-8 grain every three hours. Ice ad libitum. Food: Milk and beef tea in small but frequent doses. Hot-water stupes to be constantly applied, and frequently changed.

Such was practically the course pursued during the succeeding six days, diminishing the doses of calomel from day to day and making slight changes as were called for by the indications. During all this time the abdominal distention was very great, compelling him to lie constantly in the dorsal position with his thighs flexed upon the abdomen; at times throwing his arms about and complaining that he could not breathe owing to the upward pressure upon the diaphragm. Delirium more or less of the time; singultus, a frequent accompaniment of the vomiting, which continued at irregular intervals, but much more often when any liquid was taken into the stomach; the ejections consisting of liquid mixed with bile and mucus and most of the time having the unpleasant fæcal odor.

During this period my friend Dr. E. F. Ward saw the case with me and by his sound advice and practical suggestions, rendered me valuable aid. On the fourth day from the attack, the enemas would be followed by a small amount of fæcal matter, showing conclusively that the imperforate condition of the bowels was yielding to the constant pressure from below; these movements exhibiting bile with mucus and disintegrated tissue. On the seventh day from the attack the discharges following the injections contained a much larger amount of such fæcal matter mixed with lumps as large, at first, as a pea and later, as a chestnut, very hard and very offensive to the smell. Temperature and rapidity of pulse had gradually subsided, although the tympanites and abdominal tenderness had abated but very little, if at all. But after this date, namely, seven days from the attack, his condition improved slowly from day to day. Vomiting continued at intervals, preceded by the most tormenting pain in the stomach and bowels, caused by the extent of the peritonitis. Convalescence proceeded very slowly, and not until four weeks from the time of the attack was he able to sit up in bed and take sparingly of food, else pain with vomiting and great prostration would ensue.

During the last two weeks enemas were withheld except at times when he would have one of his paroxysms of pain, when one of them would afford almost immediate relief. Owing to the typhoid condition during the latter part of his sickness, stimulus in the form of peptonized beef was given freely, as he could bear nothing of an alcoholic nature. Medicinally, ipecac with syrup rhei. arom. was used three or four times a day. As might be expected, he had become emaciated to the last degree, with bed sores on his back and an inability to even turn in bed alone ; consequently every means possible to sustain life had been used, such as anointing the body with oil, the administration of the most nourishing articles of diet that the stomach would tolerate, etc. Here was evidently a case where there was an invagination of the bowels, causing complete obstruction with general peritonitis starting near the point of irritation and extending over the whole abdominal cavity, threatening death, first from the exhaustion produced by the constant vomiting and lack of food, and, secondly, from the acute inflammation of so large a surface of peritoneum, which latter of itself usually proves fatal; yet cured without an operation. The obstruction was mostly removed by the use of the large enemas given, sufficient at least, to allow of the passage of a small quantity of the contents of the bowels when in a fluid state ; while undoubtedly a portion of the gut sloughed away, as evidenced by the appearances of the discharges, although no distinct whole portion (as is sometimes the case) was seen.

Dr. Collier in the *London Lancet* reports a case cured without an operation. The relation of his case, which occurred in an infant only eighteen months old, is as follows:

He says a case of acute intussusception remarkable for the favorable result in so young a child and for the clearness of the diagnosis is rarely seen. The infant from birth had been suckled by its mother, but as she did not have sufficient milk, she supplemented this diet with small quantities of bread soaked in water and sweetened with sugar. For a week before he was seen the child had vomited a little milk after each meal; the dejecta had been constipated, slimy, and offensive. On February 15, while lying asleep in his mother's arms he suddenly became convulsed and seemed in great pain, screaming loudly and struggling so that it was with difficulty that he could be held. After the fit had lasted a few minutes the struggling gave place to violent straining, as if he was trying to relieve himself, and during these efforts a large quantity of gas was passed per anum. On the diaper being inspected, it was found to be soaked with bright blood and slime, but did not contain any fæcal matter. He now appeared more calm and after a short time took the breast, but almost immediately afterwards became sick, bringing up a large quantity of milky fluid; since then he had mostly been quiet, crying and straining only by fits and starts. He had taken small quantities of milk and water from a spoon but nearly always returned them immediately. No natural action of the bowels had occurred since an hour before the onset of the attack, although the diapers were several times found stained with bright, watery blood. Urine was passed more frequently, but in smaller quantities than usual. On examination the following day the condition of the child was found to be as follows: He was well nourished, but much collapsed, with pale face and pinched, drawn features; pulse 100, feeble and irregular, respiration 30, sallow skin, cold and perspiring; temperature, 100.5. There was much distention of the abdomen, and percussion yielded a tympanitic note, except where the right inguinal and hypogastric regions were occupied by an elongated swelling, which ran in a direction upwards and inwards and could be plainly seen and felt. Pressure over the tumor gave rise to crying and struggling on the part of the patient. On account of his tender age it was not considered advisable to extend the examination to an exploration of the rectum. Three blood-soiled diapers were shown by the mother, and one of them contained about two ounces of blood and mucus.

The treatment for five or six hours consisted of hot fomentations to the abdomen, with the administration of stimulants. At the expiration of this time, and his condition remaining unchanged, it was decided to anæsthetize and attempt the dislodgment of the prolapsed portion of the gut by injecting warm water. After chloroform had been inhaled a few seconds, and before insensibility had been produced, the child became violently sick, ejecting about half a pint of pale yellow fluid, having a distinct fæcal odor. The pulse at this moment became scarcely perceptible, and the patient appeared in the greatest danger, but on the withdrawal of the chloroform and the application of ammonia to the nostrils, the pulse returned, and remained fairly strong throughout the remaining stages of anæsthesia.

The fingers of one hand being kept in contact with the sausage-shaped tumor described above, warm water was slowly injected into the rectum; when about twenty ounces had been injected a sense of the tumor slipping away was plainly perceptible to the fingers in contact with the abdomen; by the time some thirty-five or forty ounces had been used, the tumor had entirely disappeared, and the most careful examination failed to detect it. During returning consciousness the child once more vomited freely, bringing up fluid of the same color and possessing the same strong fæcal odor as before. After giving brandy and belladonna and applying hot fomentations, the child slept quietly for some little time, then awoke comfortable and at once took the breast greedily. On the diapers being changed, about two tablespoonfuls of dark yellow fæcal matter were found to have been passed. From this time the patient made an uninterrupted recovery.

At the April meeting of the Pathological Society of this city, Dr. J. Lewis Smith presented the intestine of a child six months old, artificially fed, a sufferer from colic for several weeks prior to its last illness. Intense pain and tenderness over the abdomen, vomiting and constipation, with the passage of some blood from the rectum, pointed to intussusception, which was treated by large clysters repeated several times for two or three days, but without the effect of reducing the invagination.

About the beginning of the third day, laparotomy was suggested, but was refused by the parents. Consent was obtained, however, the next morning, when Dr. Sands was called in consultation. The fact that he could not discover an abdominal tumor, and also the fact that a little fæces came away with the finger during rectal examination, raised some doubt as to the exact condition present, and an operation was not performed. The child died rather suddenly twelve hours later. The invaginated portion of intestine was found to consist of the ileum and a portion of the large intestine, and had apparently been partially reduced by the injections of tepid water.

Dr. Smith remarked that within the last year or two, he had succeeded in relieving symptoms of intussusception in several cases by injections of tepid water, but he did not persist longer in the present instance for fear of rupturing the gut. It will be observed that in this case the injections were used *several* times a day, but how often is not stated, and that their use was not persevered in. Still the autopsy revealed the fact that reposition of the bowel had been partially effected.

Intussusception (*intus*, within, *su scipio*, I receive) explains itself, one portion of the intestine slipping into another portion; the etiology of which is in most cases obscure. It may be preceded by either constipation or diarrhœa, or it may occur without either condition being present. Undoubtedly the most common cause is a relaxed state of the intestine arising from diarrhœa. Children enfeebled by imperfect digestion and assimilation, or by improper food, furnish us with the largest proportion of cases.

Symptoms.—The symptons arising from this form of intestinal obstruction so closely resemble those arising from internal hernia, from fibrous bands, from volvulus, etc., that it is very difficult and sometimes impossible to form a clear diagnosis. Still, the previous history of the case, with the conditions present, will enable one to feel tolerably sure of his footing. There is, in an acute case such as we are at present considering, marked vital depression, to be likened to a severe shock. There is constipation from the first, but this symptom is not the most prominent one, and those that result are evidently, as in an ordinary case of strangulated hernia, the consequence of the injury inflicted upon the intestine, rather than of the mere mechanical obstacle to the outward passage of the feces. At the moment of the occurrence of the attack, the patient, if old enough to portray his feelings in a lucid manner, will say that something wrong has taken place in his bowels, or he is struck with severe pain at some point. There may be sudden syncope, though usually the depression of the vital power does not amount to this; vomiting speedily occurs, at first the contents of the stomach only, but later stercoraceous matters. The abdomen becomes swollen and tender, the intestines being inflated with gas, so far as to give rise to immense tympanitic distention, rolling over one another, and causing loud rumbling and gurgling noises. If the abdominal walls be thin, the rolling of the intestine may be distinctly felt, and, in many cases, seen through them, and may sometimes be continued up to one spot, where it ceases.

If relief be not afforded, the sufferings of the patient become very great, and his mental distress agonizing; the vomiting may become less frequent, but the depression increases in intensity, and at last death results about from the sixth to the tenth day, sometimes sooner, from exhaustion, peritonitis, and gangrene, the mind being clear to the last.

Perhaps the most characteristic symptom is the constant desire to go to stool without obtaining any relief, only passing a few drops of bloody mucus, accompanied by severe tenesmus.

Diagnosis.—As referred to when mentioning the symptoms, the diagnosis is often quite difficult, especially the distinguishing clearly this form of obstruction from others which present many of the same characteristics. The acute from the more chronic form is much more readily made from the very nature of the case. It is often difficult to determine whether the obstruction is mechanical, or whether it depends upon an inflammatory or spasmodic affection of the intestine.

The practice to be adopted in any particular case must at last be determined by a history of the symptoms, by a careful exploration of the abdomen and rectum, and by the light that can thus be thrown on the question, as to whether the obstruction in the particular case be dependent upon causes that are or are not removable by medical means; as upon this one fact depends largely the prospect of recovery. If, however, a child previously in fair health, with regular movements of the bowels, and having made no particular complaint, is suddenly seized with constipation, with a desire to visit the closet or stool often, with straining and pain and making the effort to evacuate the bowels, with slimy and bloody discharges of a few drops at a time, with vomiting and loss of appetite, it is pretty safe to assume that there is an invagination of the gut, and to act accordingly. Sometimes the finger introduced into the rectum will enable one to be more positive, especially if a tumor can be felt.

In brief, the chief diagnostic points between this form of obstruction and others may be stated as follows:

In internal hernia the suddenness of the symptoms, the prostration of syncope, fixed pains and vomiting, will throw light upon the condition.

In volvulus the signs of internal strangulation, with very unequal distention of the abdomen, great tympanitis on one side, and flattening on the other, are met with.

In chronic stricture suddenly occluded, the sudden aggravation of the previous, long-continued difficulty in defecation will clear up the diagnosis.

In intussusception, in addition to the symptoms enumerated, the early age of the patient should always be considered. Obstruction of the large intestine is usually of a chronic character, while that of the small one is acute, facts which aid us in forming a correct conclusion.

Treatment.—In the treatment of this form of obstruction, it must be remembered that the large proportion of the cases occurs in young children; that the usual seat of the lesion is in the vicinity of the ilio-cæcal valve, or low down in the intestinal tract; that operations of the character of laparotomy are badly borne in young subjects, and that when performed most of the cases die at once from the shock, or later from peritonitis and gangrene.

With such an array of facts staring one in the face, it becomes our imperative duty to make use of every possible means known to medical science to relieve the sufferer before resorting to such desperate measures as laparotomy. Not that we should allow the patient to die by omitting the operation when all other resources have proved unavailing, but that we should hold this in reserve as a last resort.

Dr. Schramm, of Krakow, reports three cases operated upon, and all three died. He also reports, in all, 190 cases upon whom the operation was performed for the various forms of intestinal obstruction, and in different ages, with a mortality of 64.2 per cent., or, 68 recoveries and 122 deaths. He does not give the ages, leaving us in doubt regarding the proportion of recoveries in the class of cases under consideration. He only says it was performed for invagination 27 times with 19 deaths.

Dr. Loomis, in his new work on the practice of medicine, says the mortality after laparotomy is not exactly known, some statistics showing 68 per cent., others 73 per cent., and still others 75 per cent. of deaths.

Dr. A. P. Gould, in a report as attending surgeon of the Temperance Hospital, London, read before the American Medical Association, at Washington, May, 1884, says that intestinal obstruction occurred in a child, three and a half years old, admitted in May, 1883. There had been vomiting and constipation, and it was stated that blood and slime had been passed the day before admission. Laparotomy was performed by opening the abdominal cavity in the median line, and a small intussusception was found in the right iliac fossa which was reduced; the small intestine was found extremely distended, and, in attempting to return that which had escaped through the incision, the peritoneum was torn. The child sank, and died in nine hours. At the autopsy there was lymph found on the coil of intestine which had been wounded, for a length of two or three inches. The intussuscepted gut, which was the lower end of the ilium, was purple in color, but not inflamed.

Dr. Flint, in his "Practice of Medicine," says invagination causing obstruction proves fatal in the great majority of cases; yet the affection is by no means absolutely hopeless. The manner in which recovery usually takes place is of importance in its bearing on the treatment. The invaginated portion of the intestine sloughs away and is evacuated, the entering and receiving portion at the point of entrance remaining adherent and the perviousness of the canal being restored. He also states that Philips collected twenty-seven cases where laparotomy had been performed, and in two of these cases only was the operation successful and death averted.

In the St. Bartholomew's reports for 1884, twenty-one operations for laparotomy were performed, exclusive of ovariotomies, with the result of nineteen deaths and two recoveries.

Watson, in his " Practice of Medicine," reports that Mr. Hawkins had collected statistics of forty-four operations, and of these no more than one-half survived the operation; among those who did recover, only nine lived so much as only one year, and one only for a period of three years after it.

I have thus presented a few of the many statistics scattered through our books and medical journals, for the purpose of showing how extremely uncertain in its results is the operation of laparotomy for the relief of this distressing malady, especially in children, who easily succumb from so serious an operation, by shock at the time of its performance, or inflammation which usually follows. The surgical interference in the case of adults, for impediments other than the one under consideration, gives better hopes of success, and, as so eloquently advocated by the late lamented Sims in a paper read before the Academy of Medicine a short time before his death, in which he urged the importance of the operation in all cases that were not promptly relieved by other means, should, owing to the great advantages we have at the present day as compared with even a decade since, by virtue of the power of antisepsis carried out to its logical sequences, be adopted.

If the existence of the invagination could be ascertained prior to the development of the symptoms denoting incarceration, measures for restoration might be more successfully employed; but such, unfortunately, is not the case, as usually a day or two has elapsed before the attention of the physician is called to the case. In the meantime cathartics have most likely been administered by the fond mother, which will have materially aggravated the child's sufferings instead of affording relief.

The liability to this affection, especially in children, should be constantly borne in mind in all cases of apparent colic, and should dictate reserve in the employment of cathartics. The measures to be adopted should be at once commenced and persevered in, gently but persistently, until relief is obtained, among which the injection of warm water holds the first place; the hips should be elevated in order to obtain the advantage of gravitation, and while the child is being thus held, a syringe having a long tube attachment should be used until the bowel is completely distended, without reference to the quantity employed, the child being held in this position for three to five minutes. This process may be repeated every two or three hours, according to the urgency of the symptoms.

The object is to effect the restoration by the pressure of the water upwards, as the great majority of the invaginations are downward.

Air has been advised by some authors, also the generation of gases in the intestine by using first an alkali and then an acid; but are mentioned only to be condemned, as the pressure from them is beyond control, and may, as has been done, produce rupture of the gut.

Cases have been repeatedly reported where the injection of water, frequently repeated, has apparently effected restoration of the invaginated bowel, even after obstruction has existed a number of days. When adhesion of the opposing peritoneal surfaces has taken place, these efforts will be unavailing; but if the distention of the gut with water is kept up, it prevents this very adhesion from occurring, and affords time to avail oneself of other resources of importance. Exclusive of the measures for reduction, the objects of treatment are, to secure as much quietude of the intestinal canal as possible, to palliate suffering, and to support the powers of life under the hope that sloughing and recovery may take place.

Cathartics in all cases should be avoided, while very small doses of calomel as an alterative, combined with opium, may be judicious treatment.

But whether calomel be used or not, opium should be administered in sufficient quantities to produce rest of the body, and paralyze the muscular coat of the intestines. Fomentations afford great relief, and assist in overcoming the obstruction by their relaxing the spasm accompanying this condition, and should be continued with the injections for several days, or until relief be obtained either by reposition or sloughing. All depressing remedies should be avoided, while the strength is sustained by the most nutritious food, given frequently and in small quantities.

Some authors recommend the use of some form of alcohol, which does not seem a judicious course to pursue, for the reason that we have an inflammation which is likely to be aggravated by the use of such stimulants. Purgatives should not be employed even after sloughing has taken place, lest we disturb the adhesions at the point of invagination, and allow the contents of the intestine to escape into the peritoneal cavity.

From a review of a large number of statistics, I am firmly of the opinion that, by pursuing the above-mentioned course faithfully and patiently, we shall save a larger number of patients than we can do by any operative procedure.

ORIGINAL TRANSLATIONS.

DELUSION OF PERSECUTION. A Clinical Lecture Delivered at the Hospice de la Salpêtriére, by M. LEGRAND DU SAULLE, and Reported by G. CRESPIN, Interne des Hôpitaux. Translated from the *Union Médicale*, by H. McS. GAMBLE, M.D., Moorfield, West Va.

The considerations upon which we have entered relative to the two classes of patients possessed with the insane delusion of persecution, viz., the active and the passive, will enable you to understand to-day what is meant by the *two and the three person delusion.* (*Délire à deux et à trois personnes.*) When you shall find two persons in a family attacked by the delusion of persecution you ought to ask yourself whether one of the patients has not communicated his insanity to the other. The persecuted enjoy, in fact, sometimes, the sad privilege of converting to their delusion those most intimately associated with them, upon condition that such persons be already predisposed and in quest of an opportunity, according to the expression of Prof. Lasègue.

In the cases of veritable communicated delusion, you will observe that one of the patients generally dominates the other, that the latter is but the feeble echo of the former, that the first is intelligent, and that the second is of weak mind. In a word, the one is the active **persécuté*, the other the passive; the first has created the delusion and has imposed it progressively upon the second. These two patients are not equally easy of recognition, for, whilst the active patient communicates to you all the notions which beset him, or wraps himself up in an absolute mutism which is not less significant, the passive one, on the contrary, often escapes you; half reasonable and arguing much, he will try to convince you of the reality of the facts which he affirms; nevertheless his half-supported convictions will be far from being as immovable as veritable insane conceptions.

In order that insanity may be communicated, it is necessary that certain special conditions shall exist. First, as we have said, it is necessary that one of the subjects possess an intelligence but slightly developed, that he permit himself to be influenced very easily by persons who approach him. Moreover, the two individuals must live together for a certain length of time under the same surroundings, having the same standing, sharing the same interests, the same fears and the same hopes. Finally, the delusion must have an appearance of reasonableness and be kept within the limits of the possible. In fact, the individual of weak mind who lives with an insane person reaches the point of adopting the diseased ideas of the latter only when those ideas are not too unreasonable; he resists at first for a certain time, and the persuasion only takes possession of his mind by degrees. He re-acts, moreover, in his turn upon the insane person in a certain measure to rectify and co-ordinate the delusion which then becomes common to them, and which both betray in nearly the same terms.

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*In order to avoid frequent paraphrasing, I shall be obliged to make use of the French word *persécuté* as it occurs occasionally in the text, there being no one word in the English language which is equivalent to it.—G.

Double madness always occurs under the conditions which we have just indicated; all the observations present characters nearly analogous. Women, in consequence of their impressionable nature, often constitute the passive element of double delusion. Sometimes it is the daughter who espouses all the aberrations of mind of her father, sometimes it is the sister who submits to the prejudices and fears of her brother. There are no hallucinations of hearing, of taste, and of smell which are not sometimes participated. In those cases where two persons belonging to the same family are concerned, one might invoke heredity as the predisposing cause, but this cause could not be invoked when there does not exist any bond of relationship between the patients; for example, when the derangement takes place between the husband and wife, between the mistress and the servant.

You will be able to observe all the circumstances by virtue of which double delusion (délire à deux) springs up and is developed, in the following case reported by M. Lasègue. X., sixty-six years of age, midwife, lived in poverty with her daughter twenty-eight years old, in a provincial town; expelled from their dwelling for default of payment, the two women set out for Paris, thanks to a present of forty francs which is given them, and put up at a little hotel where they are received with the greatest kindness by the mistress of the hotel. What motive had impelled these two provincial women to undertake such a journey? The interrogatory of the girl X. will inform us: she pretends that there exists somewhere a Dubois inheritance, of which the amount is considerable, and which was to revert to one of his relations, a former gendarme. This relative had, it is said, collected all the papers concerning the business, but death overtook him before he was able to settle it.

It was important then to recover the papers; but the former gendarme had, in dying, it appears, left a will which, without any doubt, gave all the information relative to the inheritance; but this will had never been made known, probably because some one had an interest in abstracting the papers. This some one is a person named R. whom the patient supposes to be a seminarist, and who had answered an individual speaking to him about the inheritance in this enigmatic phrase: "Go and find out." Evidently this R. ought to be the first heir; the clergy are mixed up in the affair. "I am shut out" said the patient, "through the fault of the priests." The mother, who accepts without question all that her daughter says, shares in all the notions and all the hopes of the latter; nevertheless, she plays but a secondary part; she loses herself in the recital of her adventure, whilst the girl, who is the real lunatic, forgets none of the details of the *complot*. The mistress of the hotel, whose kindness towards the two women is explained probably by the hope she had of participating in their inheritance, appears to have yielded to the influence of this delusion, which might have perhaps become a triple madness, if the relations had been of longer duration.

This whole story, so well related by the girl X., who communicated her conviction to her mother, rests upon vague and incoherent tales; there exists neither a Dubois succession, nor suit nor papers to support it.

I have observed at Auteuil a very curious example of delusion communicated from mistress to servant. The lady, whom I attended professionally, pretended that she was persecuted by the *members of the corporation of the sun.* This woman lived some time before near the Observatory, and there the members of the corporation watched her movements and *reported at Rome every thing she did.* It was for these reasons that she had gone to live at Auteuil, in a house forming a *recess ;* but in spite of those precautions, she quickly imagined that the astronomers, with *marine and electric telescopes*, could see her through the walls. She no longer dared to go to stool because her persecutors used such powerful instruments that they saw her at an enormous distance. This woman had a servant about thirty-five years of age, of very little intelligence, who, having seen all the errors and all the fears of her mistress spring up successively, soon came to believe in all the vexations of the Observatory. The two women spent their time handling the cards, *pour cabalistèser les chàpeaux pointus et les aragotistes.* The mistress was the active subject of persecution; the servant, who accepted all the apprehensions of the latter, was the passive subject. There was no ground for hesitation. I had the first placed in a special establishment, and the servant was sent to Auvergne to her family, and I have no doubt that the latter is to-day perfectly restored. I have seen at Bicêtre two twin brothers who had the same imaginary persecutions, the same hallucinations of the hearing. Those two twins presented the same attitude, became agitated, and fell into a stupor at the same time; but one of them had notions of suicide, whilst the other manifested no tendency to a voluntary death. Two sisters examined by M. Moreau (*de Tours*), believed that their thoughts and their acts were influenced by means of electricity; they were both, they said, in correspondence with a genius, M. Duplafon, who gave them advice about everything that they ought to do. Sometimes, but more rarely, it has been my privilege to observe examples of delusion affecting three persons. I have known in a family a mother and two sons, whose ideas of persecution, fears of poisoning, and notions of grandeur were in all points analogous; the two sons derived their predisposition from their mother.

In all cases of communicated delusion, you will take care to separate the patients; for if the one who has created the delusion is rarely enough cured, it is not the case with the other, the passive *persécuté ;* who, no longer living in the same surroundings, will see his condition improve from day to day. This, second patient is, besides, generally less strongly attacked than the first. You will also advise against confining him, whilst you will prescribe sequestration for the *persécuté actif.*

The preceding facts will suffice, I hope, to make comprehensible delusion affecting two persons, and to indicate to you the line of conduct to pursue in regard to patients who shall be subjected to your examination. I wish now to say a word about the transmission by heredity of the delusion of persecution; for families, very properly concerned about the question whether the children of a person afflicted with the delusion of persecution will themselves be subject to the same disease, will come frequently, upon the occasion of a contemplated marriage, to ask your advice.

But, gentlemen, it is not necessary to believe, because one has had a relative in the direct line of descent who was affected with the delusion of persecution, that one must himself be afflicted in the same manner; but there is a predisposition to insanity. We know to-day, to a certainty, that the neuroses undergo transformations; so I am led to say that the son of a *persécuté*, if he is predisposed to insanity, will not become, at least in the very great majority of cases, a *persécuté* himself. Such an individual, for example, having a father afflicted with the delusion of persecution, may pass through a long life without the slightest sign of insanity; but let a fortuitous occasion present itself, and you will see this man, by virtue of the possible transformations of the delusion, become quite as likely a maniac, an imbecile, or an epileptic, as a subject of persecutions and general paralytic. If the neuroses are metamorphosed in being propagated from generation to generation, I must say that the tendency to suicide is transmitted in a manner truly deplorable; whole families have disappeared in this manner. Some authentic facts permit me to think that the delusion of persecution when it is accompanied with ideas of suicide, is transmitted more frequently than in the other cases, and exercises an influence far more serious upon the descendants of the patient.

I will stop, gentlemen, with these few considerations upon communicated madness, and upon the transmission of delusion, and I am going to approach immediately the question of diagnosis, which requires some development.

When the delusion of persecution is clearly isolated, as in the numerous observations which we have reported, you could not confound it with melancholy, with stupor, for the circumscription of the delusion, in the first case, its generalization, in the second, will dissipate all doubt about the diagnosis. But it is a very different thing when the question is, for example, to differentiate it from the ideas of persecution which are met with in alcoholics. In fact, in subacute alcoholism, so well described by Professor Lasègue, the patient often believes himself pursued by enemies and sometimes presents tendencies to suicide. But you will perceive that, if the ideas which constitute the base of the delusion are analogous in the two cases, their mode of manifestation differs, nevertheless, very sensibly. Observe well, in point of fact, that the victim of persecution always relates past events which have happened to him and which awaken in him sad thoughts, but free from fear. The victim of alcoholism, on the contrary, is terrified at the threats made against him, and believes himself under the pain of the most frightful punishments. M. Lasègue compares him to an arraigned criminal, whilst the subject of persecution is the condemned one. Moreover, you remember that, in the delusion of persecution, the absence of hallucinations of sight is the rule; the patient hears persons who insult him in the street, or who come to threaten him during the night; but he does not see them, and does not seek to see them. In subacute alcoholism the picture changes ; the most mobile and the strangest hallucinations of sight constitute one of the most common symptoms. The alcoholized patient sees animals which come to attack him, cadavers and spectres which make him shiver with fright, he imagines that the walls of his room open and that phantoms proceed out of them, he perceives incendiaries who come to set fire to his house, suffers from burns and electric shocks. Finally, whilst with the victim of persecution the delusion is limited and always bears upon the same order of ideas, with the subject of alcoholism the impressions are fugacious and incoherent and often succeed one another with the greatest rapidity. To sum up all, gentlemen, when you shall observe the evidence of persecutions of a moral order, such as calumnies, complots, machinations, with hallucinations of hearing and circumscription of the delusion without the character of extravagance, you will diagnosticate delusion of persecutions; if, on the contrary, you have to deal with frightful physical persecutions, accompanied by hallucinations of hearing and of sight, with a strange and very mobile delusion, you will think of subacute alcoholism. The question may become a little more complicated if a patient attacked with the delusion of persecutions presents at the same time a paroxysm of alcoholism ; however, most frequently it will be very easy for you to distinguish what belongs to the delusion proper and what proceeds from toxic action.

You will sometimes have to make the diagnosis between the delusion of persecutions and senile persecutions. The old man who, in consequence of a hemorrhage or of a *ramollissment*, for example, has fallen into that state which has been called senile dementia, presents intellectual changes bearing chiefly upon the memory; his words are interrupted and incoherent, and strongly betray the dissociation of his ideas. It is then that some delirious conceptions may show themselves in him. He has frequent terrors during the night, imagines that some one wants to rob or kill him ; or he believes himself compromised and fears being brought to trial. He has frightful nocturnal visions, and this fact alone would suffice to prove that the ideas of persecution of this demented patient are very different from the veritable delirium of persecutions. If you add thereto the incoherence of ideas and the loss of memory, you will have all the elements necessary in order to avoid every species of error.

The diagnosis is likewise easy enough to make when one finds himself in the presence either of a subject of partial delusion with ideas of grandeur, or of a general paralytic, who, in the second period especially, may have ideas of persecution. The general paralytic, as M. Ach. Foville has well remarked, cannot believe himself possessed of the privileges of wealth, or imagine that he belongs to an illustrious family, without suffering from the modest position that he occupies, or without being saddened by the narrowness of the resources at his disposal. Then he imagines that he is the victim of the persecutions of powerful enemies, and he works out a system of delusion of persecutions which is secondary to the ideas of grandeur, and is the consequence of them. The successive apparition of the ideas of grandeur first, then of the ideas of persecution, moreover, the evidence of hallucinations of sight, of disturbance of motility and of speech, will prevent you from mistaking the nature of the affection.

Finally, gentlemen, I ought to direct your attention to the ideas of persecution which sometimes manifest themselves in the weak-minded. These individuals of limited ideas have experienced many checks in the world and have brought upon themselves misfortunes of all kinds. At the same time egotists and vain, they talk of nothing but their merits, and are constantly sounding the praise of their own abilities; far from abandoning the high opinion which they have of themselves, they reach the very natural conclusion that enemies have a spite against them, that others are jealous of them, and that they are the victims of their own merit. Dating from this moment they entertain everybody with the pretended persecutions that are directed against them, and become very dangerous persons, capable of emitting the most infamous calumnies and of perpetrating outrages in public. You will easily recognize these patients if you observe that their intellectual weakness is very appreciable, and that an instinctive perversion impels them to calumniate incessantly their relatives and friends. But there is one feature common to these patients and the veritable subjects of persecution; it is that the larger proportion of them are at the same time persecuted and persecutors.

Such, gentlemen, are the different mental maladies which must be distinguished from the delusion of persecution. You see that if the diagnosis of this delusion most frequently presents few difficulties, there are nevertheless some sources of error which you will know how hereafter to avoid.

(*To be continued.*)

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SELECTIONS.

THE COMPARATIVE RESULTS OF OPERATIONS IN BELLEVUE HOSPITAL.[1]

BY STEPHEN SMITH, M.D., Surgeon to Bellevue Hospital, New York.

As we drift with current events, we but imperfectly estimate the real advance which any art or science with which we are daily familiar has made within a limited period. It is only when we considerately pause and deliberately compare in detail past methods and results with those now practiced and obtained that we fully appreciate the vast changes which have so insidiously and imperceptibly taken place.

Perhaps there is no better place in which to test the progress of practical and operative surgery than the wards of Bellevue Hospital. This ancient institution has within its walls and its immediate environments all the conditions that in modern times are regarded as unhealthful and unsanitary. It was built between the years 1811-16 on the made lands of a cove of East River, without drainage or adequate sewerage, and without regard to ventilation. During nearly three-fourths of a century the sluggish tides have ebbed and flowed through the sodden soil of its foundation, depositing far more filth than they have removed. Since its occupation it has been used for a prison, an almshouse, and a hospital. Its wards have, from time to time, been crowded with patients suffering from all forms of contagious and infectious diseases. It has been the common receptacle of typhus and typhoid fevers, small-pox, puerperal fever, cholera, and yellow fever. Although many changes have been made in its interior, yet the great and most serious defects of location and construction have remained unaltered, and may be regarded as permanent.

Bellevue may be regarded as having been a surgical hospital only since 1850, a period of about thirty-five years, during most of which period I have been personally very familiar with the practice in the several surgical divisions. The amount of surgery in the wards of Bellevue has been a gradual increase. With the removal of the New York Hospital, and during the long interval of its non-existence, the surgical practice of Bellevue became large and important, and has remained so to the present time. The surgeons of Bellevue have always ranked among the best in the city, and as much of their practice in hospital has been public and clinical, it must be assumed that they have endeavored to the best of their ability to illustrate to their classes the highest type and best results of the science and art of surgery of their day. And yet the practice of surgery in Bellevue Hospital has, within the period mentioned, undergone so complete a revolution that one of the older surgeons would scarcely realize that he was in the same hospital where he had practiced a decade ago. He would see, with horror, operations fearlessly performed that he had formerly regarded as without the pale of legitimate surgery. He would witness procedures in the after-treatment of operations which would seem to him to be fantastic, and even ludicrous. His astonishment would be extreme on finding that the first week passed without fever, and that no change in the dressings had been made. But perhaps the most remarkable feature of modern practice would be the rapid convalescence and final complete recovery without complication or exhaustion of ordinary operations, which formerly gave so much trouble and anxiety. To make more evident the change in practice, we may contrast in detail the several steps of operations in general, and of individual cases, the methods of treatment, and the results.

The older surgeons of Bellevue Hospital had practiced in the period anterior to the use of anæsthetics. The most important general principle governing the operator was *celerity*, in order to limit as much as possible the amount of pain. Long after anæsthetics came into general use surgeons dwelt with much emphasis upon the necessity of cultivating the habit of operating rapidly. The preparations for an operation were all made with reference to this one feature. So much did this thought absorb the operator that he often became excited and annoyed by the delay. One surgeon, noted for the rapidity of his operations, was often seen, during the last moments of preparation for an amputation, to seize involuntarily the saw and move it rapidly, as if sawing a bone. Now, while every surgeon aims to diminish the period of anæsthesia, mere haste at an operation is only mentioned to be condemned. No part of the elaborate preparations are designed to render the operation simply more rapid. One thought and purpose occupy the mind of the surgeon, and that is recovery without suppuration. To this end all his preparations are made, and the entire procedure is subordinated. Formerly the surgeon prepared his instruments only by keeping them free from rust, and giving them a fine edge. When he operated the instruments were taken from the case, and, without any cleansing, were so placed that he could most readily select the one required. During the operation he laid them down or dropped them, and, without cleaning, applied them again to the wound. Now instruments are not only protected from rust and all soiling and kept sharp, but long before the operation they are placed in a carbolic solution, in order that any possible septic matter on them or their handles may be destroyed.

During the operation one assistant devotes himself entirely to the duty of handing the instruments to the operator, and of receiving them from him and at once submerging them in the disinfectant liquid. To avoid the possibility of laying an instrument down on an unclean surface and then putting it in the wound soiled, towels wrung out of the antiseptic fluid are spread around the wound.

In preparing a part for an operation, as amputation, the surgeon used to do nothing further than perhaps to have superfluous hair shaved off, and that, too, often without soap and water. Patients brought directly from the street or shop, with limbs begrimed with dirt and filth, were subjected to operations without bathing. Even when there was ample time for preparation little or no thought was given to the immediate condition of the part about to be incised. The accumulated secretions of the skin, and the dead epidermis charged with poisonous animal matters, became part of the wound and its immediate surroundings. Through this layer of filth the surgeon passed his knife into the living tissues beneath, conveying to the deepest parts of the wound matters of untold septic virulence. In this simple failure to secure ordinary cleanliness of the surface, more wounds were poisoned and induced to suppurate than from any other cause. In the closure of the wound the filthy margins were often brought in direct contact with the cut surfaces, and thus the propagation of the germs of fermentation or putrefaction were implanted in a fertile soil. Now the greatest pains are taken to cleanse the part about to be operated upon. In addition to a general bath, the entire limb, including the hand or foot, is washed with soap and water with a flesh-brush, and all the hairs are shaved cleanly from the part. This washing is followed by a douche of an antiseptic solution, and then all the parts adjacent to the wound are covered with towels wrung out of bichloride solution.

The personal preparation of the surgeon and his assistants for the operation was limited to self-protection against soiling the clothes or person. No special thought was ever given to the condition of the hands or nails. The assistants came directly from other ward duties, their hands soiled by contact with the thousand impure matters which they must handle, and with slight or no washing engaged actively in the manipulations of the operation. Now the surgeon and his assistants take infinite pains with their hands. Soap and water and the flesh-brush are brought into active use, to be followed by a douche of bichloride solution. The nails—the most fertile source of filth in the body—are rendered scrupulously clean. Many will recall with a shudder the long, claw-like nail of one surgeon, which penetrated unwashed every wound where he was present. Not only is no bystander invited to put his finger in the wound, but scarcely an attendant at Bellevue would allow such an intrusion.

The sponges of former times were universally believed to be the carriers of filth to the wounds, and yet little was done to purify them except to cleanse them in water. They may have been boiled at first to free them from sand, but they were not purified by any adequate means when first prepared, nor after their use in suppurating wounds. Now the process of purification of sponges is elaborate in the extreme, and is so exact in details as to render them positively harmless in wounds.

The ordinary silk ligatures were formerly regarded as necessarily foreign bodies in wounds, and no care was taken of them to improve their condition. They were carried about in any convenient pocket, and at the operation the silk was cut of proper lengths, waxed, and then drawn through a buttonhole of an assistant, or laid on any convenient surface. Now the ligature thread undergoes a long process of cleansing and disinfection at the hands of a chemist, and is then applied to a reel enclosed in a corked bottle filled with antiseptic fluid. From this bottle it is removed only as it is drawn out at the moment of using it. Considering the well-recognized fact that the ligature, as formerly used, was an intense irritant to wounds, it is not surprising that surgeons applied as few as possible. From time to time they resorted to other methods of closing arteries, as by torsion, or metallic wires, to avoid the use of silk. But all these devices bore no comparison to the simple and efficient antiseptic ligatures of to-day. Reeled off from the bottle, clean, strong, and supple, the surgeon applies them without other limit than the complete suppression of hemorrhage.

Recognizing the silk ligature as an irritant, the surgeon always used to cut off but one end, and left the other end depending from the wound, to be removed by traction when it had finally separated from the end of the vessel to which it had been applied. And well and faithfully did the ligature meet its indications, for, during the first week, the most critical period in the history of the wound, it did not fail to induce free, and often profuse, suppuration. But now, not only does the surgeon freely apply the ligature, but he cuts off both ends, and closes the wound as completely as if there was no foreign substance left between its surfaces. Nor is he disappointed. No suppuration follows the presence of the ligatures, and union takes place as promptly as if no ligatures had been used. The operation being completed in the shortest possible time, the operator concluded by exploring all parts of the wound with his unwashed fingers. If it was a hernia, he thrust his fingers as far into the abdominal cavity as possible, and explored it freely. This act completed, it was a very common occurrence, also, for the surgeon to invite any bystander to examine the wound with his fingers, and sometimes several persons would avail themselves of the opportunity to improve their tactual sensibilities.

Many a wound that may possibly have escaped previous poisoning at the hands of the operator and his instruments has received its final charge of septic matters from the dirty fingers of a casual looker-on. Now, the most scrupulous care is taken to protect the wound from injury, either at the hands of the surgeon or his assistants. Exploration is cautiously made with fingers cleansed and disinfected, and even that act is completed by a douche, over the entire surface examined, of the bichloride solution. If the fingers of a bystander were introduced into the wound unwashed and undisinfected, the surgeon would regard the act as probably fatal to recovery without suppuration. Hence, no one is now invited by courtesy, or to obtain an opinion, to examine the wound by digital exploration unless he has made due preparation for the act.

In closing an ordinary wound the surgeon formerly took great pains to provide for the drainage of pus. The most dependent part of the wound was left open, and all of the ligatures were drawn out at that point. The edges of the skin were brought into apposition by the interrupted suture, at intervals of half an inch, and the intervening skin was approximated by adhesive plaster. The suture and adhesive plaster were alike unprepared by any process that would relieve them of filth, and far too often both contained the germs of putrefaction. Now the surgeon employs sutures that, like the ligatures, have been relieved of all possible elements of poisoning, both in their preparation and in the method of preserving them. In closing the wound he aims to avoid suppuration altogether, and to secure the immediate union of parts. The suture being non-irritating, he freely stitches together all the deeper structures first, wherever they can be approximated, and then the more superficial parts are brought into firm and exact apposition. Instead of the interrupted suture, which leaves the wound gaping at intervals, and necessitates the use of adhesive plaster, he employs the uninterrupted, or glover's suture, which closes the wound throughout, and relieves it of all necessity of additional support. Wherever there is liability of the collection of fluid from the immediate drainage of the surface of the wound, he inserts a drainage-tube, as a temporary expedient to prevent distention of the wound, and possible putrefaction. The advantages of this latter dressing over the former are apparent. No irritant is allowed to enter the wound. The suturing of the deeper structures brings into close and permanent apposition parts that formerly separated.

The continuous suture has great advantages over the interrupted suture, especially when it is taken deeply in the margins of the wound. It not only brings the surfaces into firm apposition at the points where it traverses the wound, but by whipping the edges, in the parlance of the tailor, where it passes over the wound externally, it relieves us of the necessity of any additional supporting dressings. The advantages of this method of dressing, therefore, are great, and, indeed, vital, in the effort to secure immediate union.

The final dressing of the wound formerly was the adhesive plaster and the bandage for support and retention. The plaster was never rendered aseptic, and by its close relations to the wound was dangerous. The bandage was usually of unbleached muslin, and had no special cleansing or preparation for the wound. It may not have been harmful, but it added to the risks of infection. Now, the wound, once closed, is protected from external infection by dusting the surfaces with iodoform. Then pads of disinfected materials, with iodoform sprinkled between the layers, are applied, sometimes over a large area around the wound, and in considerable numbers. The whole is retained by bandages of disinfected materials, carefully preserved in a disinfected atmosphere. The addition of these external dressings, prepared with so much care, and adjusted with so much painstaking, has been very much criticized. It is possible that they are often unduly multiplied, but the results justify the faith which so many surgeons have in them.

In speaking of the closure of wounds, it should be stated that while the older surgeons did not close many wounds, as those of exsection, surgeons now close all such wounds. This difference in treatment is one of the most striking features in the comparison of the surgery of the present time and that of a decade past. The former surgeon prepared the wound for suppuration, the later surgeon dressed it as for union without suppuration. Both uniformly realized their expectation.

If we follow the wounds treated by these two methods from the first to the last dressings, the contrast is remarkable. If the wound were large, on the second or third day the fever formerly began, announcing suppuration, and from this date, for weeks after, the dressings were changed daily, one, two, or three times. The pus-basin, the irrigator, and the dressing-forceps were in constant demand. In many wounds the suppuration was so profuse that vessels were placed under them which received the continuous discharge. The fever generally ran high, with consequent exhaustion and depression of the patient. Septicæmia, as we now understand it, was the intermediary fever of that day, and was regarded as a usual, if not a necessary, sequel of all considerable operations. Following this fever, or rather insidiously engrafted upon it, were chills, fever, and profuse sweatings, now recognized as pyæmia, but then regarded as only another stage of surgical fever. Few indeed survived this fever; and in the diffused or metastatic abscesses revealed at the autospy the surgeon discovered a cause of death quite beyond his power to prevent, control, or even comprehend. The vast change in the progress of operated cases during the past ten years can scarcely be realized. Surgical fever, with all its disastrous variations, is, in practice, rare in Bellevue Hospital. Pus, as an outcome of surgical operations, is a thing of the past. On one occasion last winter, a teacher in one of the medical colleges sent to the wards of Bellevue for a specimen of pus for exhibition to his class, but none was to be found in the four surgical divisions of the hospital, although there was at that time an unusually large number of wounds and operated cases under active treatment. The wound is now dressed with no expectation that fever will rise, or that suppuration will occur, or that the dressings will require renewal on account of the presence of pus. The patient sleeps and eats well from the first, and the surgeon removes the dressing, often only to find the wound united. This remark is true, not only of incised wounds, but equally of wounds of amputation, excision, ligation of arteries, etc.

If now we turn from this view of the several stages of operations in general to particular operations, we find many curious illustrations of the remarkable progress of practical surgery in this hospital. It must be understood that in every operation all of the general precautionary measures already described are scrupulously taken and carried out, and, therefore, only special differences in treatment will be mentioned.

Compound fractures were formerly regarded as proper cases for amputation, if the local injury exceeded a single fracture, with a simple penetration of the soft tissues. And even the simplest cases of compound fracture were reserved for treatment with many misgivings as to the result. The dictum of Hunter, that "compound fractures commonly suppurate," was ever the guiding principle in the mind of the surgeon. If, therefore, the wound was extensive, or the bones comminuted, or a joint involved, amputation was the rule. If it were decided to endeavor to save the limb, the only measures adopted were sealing the external wound with some imperfect substance and placing the limb in a comfortable position. The old fracture-box for the leg and the fenestrated gypsum bandage were the only measures employed. The fracture-box, with its bed of bran or sawdust, was regarded as a remarkable advance in the treatment of compound fractures of the tibia. Placed in the box, with the foot fixed to the foot-board, the wound was covered with bran, and suppuration allowed to go on *ad libitum* and *ad infinitum*. The contrivance had no merit whatever. On the contrary, it greatly aggravated the suppuration by fixing the lower fragment, while it allowed the upper fragment to move freely upon it every time the patient moved. The gypsum splint and bandage had the merit of keeping, or aiming to keep, both fragments at perfect rest. This method of treating compound fractures was a real step in advance, but it did not prevent suppuration in some measure. To-day compound fractures are welcomed to the wards of Bellevue as a class of cases which give the most satisfactory results.

Amputation is not thought of unless arteries and nerves are so far destroyed that death of the extremity must follow. Even when the wound involves a joint, the question of amputation is not more pressing. The treatment pursued is designed—1, to remove from the wound every particle of matter liable to injure the tissues and induce suppuration; 2, to place in fixed apposition all of the tissues composing the wound; 3, to cleanse and disinfect the wound, and protect it from becoming soiled during recovery; 4, to protect the wound from any movement of the parts entering into it while the process of repair is going on. The procedure, so far as concerns the wound, consists in freely exposing the injured parts by incision, removing all effusions of blood, shreds of injured tissue, fragments of bone, and then wiring the bones together so that fractured parts exactly fit each other; next stitching together all cut or torn tissues with prepared catgut thread, as far as they can be brought together; then the final closure of the wound, except where a drainage-tube may be inserted into a cavity of the deep parts; and, finally, the external antiseptic dressings and a light bandage of plaster-of-Paris, and over all a wire-gauze splint for suspension. This treatment of compound fractures is so uniformly successful that the surgeon has none of that care and anxiety after the final dressings which formerly harrassed him. If there should be symptoms indicating suppuration, the dressings are at once removed and the source of the trouble searched out and destroyed.

Amputation wounds rarely, if ever, recovered at Bellevue, except after long-continued suppuration. From the smaller amputations patients recovered in due time, but often greatly enfeebled by the drain of suppuration. The larger amputations were terribly fatal. A resident surgeon once made the statement that a recovery after amputation of the thigh had not occurred in Bellevue Hospital " since the time that the memory of man runneth not to the contrary.' Though this remark was not strictly true, it had a painful significance to the surgeons of that period. Suppuration, with its sequelæ—septicæmic, pyæmic, and hectic fevers—was the scourge of the surgical wards. The open method of treatment of amputation wounds, advocated by Dr. James R. Wood, had only the merit of not confining the pus within the wounds, and of thus diminishing somewhat the liabilities of septicæmia and pyæmia. It did not prevent suppuration, the source of all the evil. The treatment consisted in closing the upper part of the wound, and placing the stump in such position that the pus flowed freely out into a vessel placed to receive it. The period of suppuration was undoubtedly diminished by this free exposure of the wound to the air and the application of balsam of Peru, a favorite remedy with Dr. Wood. The open method, was, therefore, a decided improvement upon the old method of closing wounds, but it came far short of the present method, which prevents suppuration altogether, or reduces it to a minimum. Except for the unfavorable conditions incident to the injury, amputations are now among the most successful operations at Bellevue. Death by suppuration and its results does not occur.

Excision of the larger joints was formerly a most doubtful and dangerous operation. The wounds were flooded with pus for months; and if the patient survived, it was only after the most desperate struggle. The specimens of exsected joints in the Wood Museum, honeycombed with channels through which pus flowed out from the deeper parts of the wound, will be lasting witnesses to the destructive pathological processes which the surgeons of a former period could not avert, and which brought to an untimely issue the best-planned operations. In dressing exsection wounds the older surgeons made ample preparation for suppuration. The wound was left open, and the limb was placed in such position as would allow the pus to escape most freely. For months the patient lay in the same position, wasting under the excessive drain, and often having, as a dreaded complication, extensive bed-sores. Now the surgeon completes the operation by firmly and accurately closing the wound at all points, except where the drainage-tube emerges. This tube is used only for the temporary purpose of relieving the wound of accumulating serous fluid, and is soon removed. As a rule, excision wounds now do not suppurate; union takes place by rapid and healthy granulation.

During the past year or two we have had under observation many cases of excision of the knee-joint, the hip-joint, the elbow-joint, and the ankle-joint, which have been repaired without suppuration. In one instance of an old and destructive inflammation of the ankle-joint the articular ends of the tibia and fibula, the surfaces of the astragalus and os calces, and all of the surrounding tissues, had to be thoroughly scraped to remove the dead bone and fungous granulations. When the cavity was prepared for dressing it was enormous. But as all diseased structures seemed to be removed, and the wound appeared everywhere clean, it was dressed for union without suppuration. The wound did heal without other suppuration than a slight amount of pus, which discharged from a small carious surface. The health of the patient began at once to improve, and in due time she was about the ward on crutches. We may now say of excisions, as of amputations, that they are regarded as simple and very safe operations.

The ligation of large arteries was formerly justly estimated as a very serious operation. The common silk ligature, prepared by unwashed hands, was left depending from the wound. To do its work properly it must in due time sever the strangulated artery by the ulcerative process, and then be removed by traction. With the keenest and often most painful anxiety, the surgeon daily watched the wound to note the amount of suppuration and gently tested the firmness of the ligature. If after the separation of the ligature the suppuration diminished, and finally ceased, the surgeon was happy and boastful of his success. But far too often the suppuration did not diminish, and to the dismay of the surgeon a slight oozing or gush of blood indicated to his practised eye a fatal issue by secondary hemorrhage.

How desperately yet vainly he struggled against fate, by resorting to pressure, position, styptics, etc., the older surgeons can alone realize. The repeated hemorrhages, or uncontrollable outbursts, at length placed the case in the category of unsuccessful operations. Now, how completely are all the conditions of the operations changed! It is no longer necessary to divide the artery by the ligature to accomplish our object, and thus endanger life by hemorrhage; but, on the contrary, we seek, while we interrupt the circulation sufficiently to effect our purpose, to strengthen the artery by our operation. The indications now are the opposite of those which before obtained. The ligature now selected is non-irritating, and preferably absorbable, as catgut. When applied, it may, or may not, divide the internal coats of the artery. In either case the wound is completely closed and no suppuration occurs. In the repair the artery enlarges externally at the seat of the operation by nutritive action, while the coagula organize internally and close its calibre. Secondary hemorrhage after the ligation of arteries has, therefore, become an incident of the past. The conditions no longer exist which make it possible. Ligation of the common carotid is a familiar operation at Bellevue, and was often performed with great skill by Dr. Wood, who published an elaborate monograph on that subject. I aided him in the examination and collection of cases, and in the preparation of the text, and was impressed with the destructive effects of the ulcerative process which attend the separation of the ligature. Some time since I had occasion to ligate this artery, and applied the catgut ligature, cutting both ends close to the knot, and closing the wound perfectly. Union promptly followed, and nothing further was seen of the ligature. The patient died at the end of two months of cancer of the mouth and pharynx, and the autopsy revealed an enlargement of the artery at the seat of the ligature to twice its normal size, by a ring of new tissue completely encircling it. On incising the artery at this point, the remains of the ligature were found in this ring, and the coagula had organized and closed its cavity permanently. It was evident that the ligature had greatly strengthened the artery, instead of destroying it, as in the old operation.

It follows that, if the major operations are now performed with so much success, the minor operations are correspondingly successful. If we take as an example the treatment of cold abscesses, the improvement is very noticeable. Formerly a cold abscess unconnected with bone, as in the thigh or on the back, were preferably allowed to open themselves. If the surgeon ventured to operate, he usually made a "valvular incision," and allowed part of the contents to flow out, and then closed the wound. This operation was repeated many times. When aspiration was introduced, it was regarded as a great advance. The fear of the surgeon was that air would enter the abscess cavity and set up active suppuration. I recall a case of large abscess of the back in a young woman, which, after consultation and much deliberation, Dr. Van Buren ventured to puncture directly. The interest taken in this bold operation was very great, and the progress of the case was watched with much anxiety by the operator. Profuse suppuration followed, and the patient nearly lost her life. Now these abscesses are promptly cured, and without suppuration, by opening them freely, and, with the curette, scraping out all the old granulations and diseased tissues; then thoroughly cleansing the cavity with bichloride solutions, and finally pressing the walls gently together with disinfected sponges and bandages, or other antiseptic dressings. The walls of these abscesses, sometimes of enormous size and many square feet of surface, promptly unite, and often under the first dressings.

And not less important is the change in the treatment of abscesses connected with carious bone. Abscesses in the lumbar and femoral regions, caused by caries of the spine, were once greatly feared at Bellevue.

Billroth's advice was very rigidly followed, viz., "If the abscess comes from a bone on which an operation is impossible or undesirable, do not meddle with it, but be thankful for every day that it remains closed, and wait quietly until it opens, for thus there will be relatively the least danger." Now these abscesses are immediately opened and kept thoroughly cleansed, together with their sinuses, by bichloride solutions, with a marked diminution and in some cases a complete suppression of suppuration. In several instances of both lumbar and femoral abscess from spinal caries, incisions have been freely made, the pus evacuated, and by means of the soft rubber catheter gently passed along the sinus the carious abscess itself has been thoroughly and repeatedly cleansed and disinfected with carbolic or bichloride solutions, followed by rapid diminution and final complete cessation of suppuration. Meantime the patients have rapidly recovered from the symptoms of blood-poisoning from which they have been suffering.

At a recent period a method of treating large abscesses and diffused collections of pus in cellular tissue by the introduction of large perforated drainage-tubes was practiced. Through these tubes the antiseptic solutions were frequently injected, with a view to irrigate the diseased surfaces and tissues. It was a most unscientific method, and was soon abandoned. Instead of it, we have the present rational practice of carefully opening all collections of pus, cleansing the cavities, removing all granulations and other diseased tissues, and closing the wound permanently. The former method often resulted most disastrously; the present never fails of complete success when properly performed.

Perhaps the most marked illustration of the great improvement in operative surgery in Bellevue may be found in the unvarying success which attends the treatment of simple fracture of the patella by wiring together the fragments. It was eminently fitting that this operation, so novel and startling as to be received with almost universal ridicule by older surgeons, should have first been proposed by the great apostle of antiseptic surgery. By proposing and successfully executing this operation he expressed his faith in his teachings in form more emphatic and convincing than language could. This procedure does, indeed, embody the very spirit and genius of the surgery of to-day, viz., boldness to audacity in the conception of an operation, and conservatism the most absolute in the method and means employed in executing it. And yet this operation is now accepted as legitimate in Bellevue, and is of almost weekly occurrence in one or the other of its surgical divisions. And no operation so inherently dangerous when performed according to old methods has ever proved more successful. It has now been performed in more than a score of cases without an unfavorable result.

Though this paper was to be limited to a review of the comparative results of the ordinary surgical practices of Bellevue, formerly and now, with a brief commentary upon the means and methods employed, I cannot pass unnoticed the success which attends the practice of gynæcology in that hospital. The surgery of the pelvic organs of the female is based on the same principles as those which govern the general practice of surgery in Bellevue. And the results are equally remarkable.

Septicæmia and pyæmia are almost unknown in the pavilion devoted to this branch of surgery, and recovery after operations is rapid and complete, unless the case is complicated with conditions quite beyond control. The following statistics show the great success of operations in this branch of practice at Bellevue. Dr. Wylie states that since November, 1883, he has performed laparotomy thirty times, chiefly in the Marquand and Sturgis pavilions, with five deaths. Of the cases proving fatal, two were hysterectomies, one for cancer of the uterus, and the other for a myoma weighing fifty pounds; two were cases of pelvic abscess, complicated with purulent collections in the Fallopian tubes. All of the cases of ovarian cysts recovered.

In reviewing the surgical practice of Bellevue it is not difficult to determine the essential feature of the present methods as compared with those of the past. Cleanliness is the one great object sought to be attained in all operations. Whatever may be the final conclusion of scientific students as to the cause of putrefaction in wounds, practically it is determined that the surgeon may, with the most absolute certainty, protect an ordinary open wound from suppuration. To effect this object he finds that he has simply to resort to those measures which are known to secure perfect cleanliness of the wound. The agents now relied upon and found efficient are: 1. Soap and water to external parts. 2. Carbolic solutions for the instruments. 3. Bichloride solutions to all surfaces and tissues. 4. Iodoform for external dressings. We may summarize the conditions regarded as essential to success as follows, viz., *a clean operator; clean assistants; a clean patient; clean instruments; clean dressings.—New York Medical Record.*

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RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

PRELIMINARY REPORT ON THE INFLUENCE OF HEPATIC STIMULANTS ON THE COMPOSITION OF THE URINE AND ON THE BLOOD-CORPUSCLES.

By D. Noel Paton, M.D., Edinburgh (*British Medical Journal*).

Action of Cholagogues on the Urine.—The influence on the excretion of urea and uric acid of the following cholagogues has been studied: euonymin, iridin, colchicum, salicylate of soda, benzoate of soda, and perchloride of mercury. Five experiments have been made with euonymin, three with iridin, three with colchicum, six with salicylate of soda, two with benzoate of soda, and five with perchloride of mercury. The above list does not appear very large; but it must be remembered that each experiment extended over ten or fourteen days.

Method of Analysis.—The various methods for the quantitative estimation of urea and uric acid were fully studied. In my investigations I have adopted the following method :

1. *For urea* the hypobromite method, as improved by Huefner, but with the apparatus of Dupré, was used. This method was found to give results most closely corresponding to the actual excretion of urea, and it is less liable to be vitiated by the presence in the urine of the drugs during their excretion by the kidney than the more commonly employed, though not more accurate, method of Liebig.

2. *For Uric Acid* Haycraft's method was employed, because it yields much more accurate results than the older methods of Heintz, of Cook, or of Pavy ; while Salkowski's very complicated method was found too tedious for every-day use.

Mode of Experiment.—My first experiments were made on the human subject, but the results obtained were highly unsatisfactory, and all my observations were repeated on dogs kept on a fixed diet. In these, the urea excreted became very constant, and the effects of moderate doses of the drugs could be readily demonstrated.

Results.—The following results have been obtained : 1. Euonymin, iridin, colchicum, and perchloride of mercury, all increase the secretion of urea and uric acid ; and, with the exception of colchicum, they also increase the excretion of water. When purgation is induced, the full action of these drugs upon the urea is not manifest. 2. Salicylate of soda and benzoate of soda both greatly increase the excretion of urea and very markedly diminish the secretion of uric acid. With salicylate of soda the water is much diminished, while with the benzoate of soda this remains unchanged. 3 An experiment with ipecacuanah was attempted, but the sickness induced was so great that no results of any value were obtained.

Action of Cholagogues on the Blood Corpuscles.—My reasons for undertaking an investigation into the action of these drugs on the blood-corpuscles were the following :

1. Fuhrer and Ludwig, Meissner and others, have adduced cogent arguments to show that a large part of the urea in the organism is derived from the breaking down of blood-corpuscles. No direct experiments have, however, been made upon this subject.

2. The introduction of hæmoglobin into the system has been found to increase the secretion of bile.

3. The connection of the cholagogue with the blood-destroying action of toluylendiamin has been hinted at by Afanasiev in his interesting paper on that drug.

The action of the following drugs upon the hæmocytes, both outside the body and in some cases also in the living subject, has been studied ; salicylate of soda, benzoate of soda, perchloride of mercury, colchicin, sulphate of soda, phosphate of soda, and some of the other salts of the alkalies.

Salicylate of Soda has been shown, both outside the body and in the living subject, to have a very powerful destructive action upon the red blood-corpuscles. Its action has been studied on amphibian and mammalian blood, both outside the body and in the living animal.

Benzoate of Soda has a similar action.

Mercury.—The mercuric potassic iodide, which does not coagulate albumen, was the salt used. Outside the body, both in amphibia and in mammals, it has a powerful destroying action upon the hæmocytes. That this action is due to the mercury is shown by the fact that neither the iodide nor the chloride of potassium has any such effect.

Colchicin has a similar action both outside and in the living body.

Many interesting results in regard to the different manner in which these substances act on the corpuscles while effecting their destruction have been obtained.

The action of the salts of the alkalies is still under investigation, and interesting results are being obtained.

The insoluble nature of most of the cholagogue salts has prevented my investigating their action on the blood-corpuscles. This difficulty I trust soon to be able to overcome.

I intend to postpone publishing my results until I have been able to connect more definitely destruction of blood-corpuscles with formation of urea. This subject I intend to investigate by the "durchstroemung" method of Ludwig. I have already had an apparatus constructed, and as soon as it is ready I shall proceed with these experiments.

THE DIAGNOSIS AND TREATMENT OF TUMORS OF THE BLADDER. In his introduction to a discussion on this subject, in the Surgical Section of the British Medical Association, at the late meeting at Cardiff, Mr. Reginald Harrison said: It will be convenient to arrange tumors of the bladder into two classes or stages: 1. Those which during their entire existence, or for a portion of it, occasion either slight or no distinct indications of their presence. 2. Those which declare themselves by symptoms either seriously disturbing the function of micturition, or which by their constancy or degree threaten the life of the patient. From the manner in which I have thus attempted in general terms to make use of a classification, it will be at once understood that individually I should be guided as to treatment, not by the fact alone that a patient has a growth in his bladder, but by the symptoms it produces. The mere subjective evidence that a person has a tumor of this kind would not, I submit, warrant the adoption of any operative measures to effect its removal, even if in addition it were possible to demonstrate its existence by other means than digital exploration. Some tumors of the bladder which have been found in the post-mortem room appear to have had no history connected with them, and instances are known in patients of the total disappearance, after varying intervals, of symptoms which were unmistakably those of villous growth or papilloma. Of the latter, I believe that I am acquainted with more than one case. These are important facts, as they seem to indicate that what nature can accomplish art may hope to imitate. How these growths thus disappear, whether it is by an accidental self-strangulation, or by an inflammatory act, it is impossible to say ; but that they do so occasionally, without recurrence, I have not the least doubt.

Unfortunately, however, by far the larger proportion of them sooner or later pass out of the condition where operative interference is not to be recommended, and enter upon what I have taken as the second stage of their existence. Whether the transition is slow or rapid, gradual or sudden, much depends on their kind ; but whether innocent or malignant, primary or secondary, the great majority of them, sooner or later, make it apparent that life will eventually be destroyed, either by persistent hemorrhage or by the degree micturition is interfered with.

The question of operative interference will now be entertained, but before anything further can be said as to the hope of success which is likely to follow this, it is necessary that a more accurate knowledge of the connections of the growth should be obtained. This brings me to speak of digital exploration of the bladder. Digital exploration of the bladder relative to the treatment of tumors seems to me to be called for when it can fulfil at least three objects : 1. The relief of symptoms which are otherwise irremediable. 2. For verifying the diagnosis of tumor. 3. For determining whether the removal of the growth can be proceeded with. The circumstances which require a surgeon to open the bladder for the purpose of finding out what is inside it must be very exceptional, but when by this proceeding the three important objects I have mentioned are to be obtained with little risk, then its importance cannot well be overrated. There are recorded cases which seem to suggest that if the exploratory examination had been limited to providing a means for draining the bladder, and for examining the growth, it would have been better. In the case of an epithelioma of the bladder, such as you see in the illustration, which I have taken from Quain (Plate XXIX), to attempt its extirpation is obviously out of the question ; to explore it with the finger, and to feel so far satisfied, and at the same time to give the patient an opportunity of emptying his bladder completely by means of a short and open road so long as he lives, is legitimate ; nay, further, experience has already sufficiently shown that there is no better way of controlling the considerable bleeding which nearly always attends these cases than by providing the means of permanently maintaining the bladder in a condition of more or less contraction.

And now a few words in reference to the operation for exploring the bladder with the finger. If there are two ways to a place of about the same length, but with somewhat different surroundings, you may depend upon it you will have two sets of travelers, with the same aims, but with very opposite notions as to the respective merits of the two routes—so with the bladder ; though we are agreed as to the necessity of exploring it, we are not so unanimous about the route. In this country, as well as in America, median perineal urethrotomy seems to be preferred ; whilst in France, the claims of the supra-pubic operation have been forcibly urged by Professor Guyon, Pousson, and others. Sir Henry Thompson has advocated the former method, not only as being the safest and most convenient for exploration, but, as he has shown by examples, for extirpating these growths. It seems to me that this form of procedure is to be preferred on several grounds. In the first place, it provides a direct access to the more usual position of these growths ; by a continuance of the incision forwards into the membranous urethra and backwards to the extreme limit of the prostate, it affords more room for manipulation than at first sight appears ; but what is of more importance, it is, I believe, the best position for the drainage to follow, which is a most important item in the management of these cases. If a perineal exploration shows the position or character of the tumor to be such as would be benefited by an access from the front, should it be determined to remove it, there is nothing to prevent the addition of the supra-pubic incision, as Billroth demonstrated. A supra-pubic incision is none the worse for having a more dependent opening, as Frère Côme practiced a hundred years ago in connection with his success as an operator for stone. But, as I have already intimated, the great importance of the after-treatment, in relation to thorough drainage, renders to my mind the perineal procedure almost a necessity. In connection with this point, it must not be forgotten what are the conditions under which these operations are often undertaken. In addition to the tumor which it is purposed to remove, there are usually present, either in the bladder itself or in the organs associated with it, pathological changes which add considerably to the danger arising from the retention of anything which ought to escape. The viscus is occasionally sacculated, the ureters are patent and frequently largely distended, whilst the kidneys are rarely sound where the obstruction caused by the growths has been of long continuance. Hence we have much to fear from any extension of a suppurative process after the operation, as I have seen in two instances which have recently come under notice. One of the best safeguards against a contingency such as this is thorough drainage, and this I think can best be secured through an opening in the perineum.

The feasibility of attempting to remove the tumor having been determined by digital exploration, the precise means of doing so have now to be considered. It will not be necessary for me to describe at length how this has been effected after an opening has first been made into the bladder ; in some instances the finger-nail has sufficed ; in others, various kinds of forceps ; quite recently Mr. Pitts has recorded a case where a growth was successfully removed by the écraseur. In examining two cases that terminated fatally, it appeared that if it had been possible to have applied a ligature round the pedicles, and then to have removed the growths cleanly, either with forceps or scissors, a different result might have followed.

When, after the bladder has been opened and explored, it seems practicable to remove the tumor, this should be effected as completely as possible ; to take away a portion of it is to leave the remainder to inflame, suppurate, and possibly to become gangrenous, thus providing a fruitful cause for pyelitis, through the largely dilated ureters. Not being entirely satisfied with the forceps that hitherto have been used for the purpose of seizing and extracting these growths, I have had some others made for me by Messrs. Krohne & Sesemann, which, so far as I have been able to judge of them in practice, are well adapted for this object. It will be seen that they consist of an ordinary pair of bladder-forceps, with a free margin ; by this contrivance it is almost impossible to do any damage to the wall of the bladder itself. The removal of the growth is effected partly by twisting slowly with the hand, and partly by the crushing action of the jaws of the instrument. In the exploration of the pedicle, both before and after removal of the growth, I have found one of Marion Sims's enucleator hooks exceedingly useful. If, however, the connections of the tumor are extensive, and there is a doubt as to whether all can be got away without doing serious damage to the bladder itself, I feel sure that we had better content ourselves with the opening, which may under all circumstances be safely made, and the drainage that this opening with a suitable apparatus will provide. The lesser proceeding has in many instances proved the means of arresting hemorrhage and of adding materially to the comfort as well as to the life of the patient, even where it has been found impossible either to remove the tumor or with safety to reduce its size.

Time will not permit me to illustrate these remarks with cases from my own practice, where I have operated in accordance with the views expressed in this paper ; these have already been noticed in a previous communication.*

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ORIGINAL ABSTRACTS.

TREATMENT OF ACUTE INTUSSUSCEPTION.—In his recent paper before the British Medical Association, on " The Operative Treatment of Intestinal Obstruction," Mr. Frederick Treves thus treats of acute intussusception :

The chief point of interest in connection with this form of obstruction is concerned in the question of the frequency of spontaneous relief, and the matter that presents itself most prominently to the surgeon's notice relates to the reliance that is to be placed upon the prospect of such relief. This form of obstruction is quite common, and forms, indeed, no less than one-third of all known varieties of the affection, excluding hernia and obstructions due to congenital defects. The acute cases are those that—if they follow an uninterrupted course—end in death within seven days. These cases form about fifty per cent. of the whole number of invagination cases. It is well, also, to bear in mind that the enteric and ileo-colic forms are not usually acute, and that fifty per cent. of all the examples of the disease are met with in patients under ten years of age. Spontaneous cure may be met with under two circumstances. In the first place, the invagination may reduce itself before the period has been reached when from structural changes it has become irreducible ; and, secondly, spontaneous cure may occur after the invagination has

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*"On the Surgical Treatment of Hæmaturia," Liverpool, *Medico-Chirurgical Journal*, July, 1884.

become irreducible, either by the formation of fecal fistula above the obstruction—a form of relief that is very rare—or by the elimination of the gangrenous intussusception. The method of relief named in the first category is certainly not infrequent. Most surgeons must have met with instances of acute invagination that have become cured without elimination of the intussusception and with no more elaborate treatment than that comprised by rest, starvation, and the use of opium or belladonna. It is to be regretted that statistics are not forthcoming to show with what frequency this termination of the case may be expected. To enter at once into the treatment of acute invagination, I imagine that general approval will sanction the immediate use of opium or belladonna, together with practical starvation and perfect rest. By these measures the peristaltic movements are stilled, the irregular muscular action in the bowel that has provoked the malady is arrested, and the prospect of spontaneous reduction is greatly favored. Presuming that no benefit attends this mode of treatment at the end of twelve hours, it will be expedient to attempt reduction by means of insufflation or forcible enemata. Considerable success has attended these measures. By far the best instrument for the purpose—no matter whether water or air is used—is the admirable insufflator invented by Mr. Lund. I think that in children under ten years of age the injection should be cautiously administered while the child is under the influence of an anæsthetic; but in patients above that age it is, perhaps, safer to carry out this treatment without chloroform. There is no doubt that in adults the best guide to the amount of force to be used is the patient's own sensation. In any instance the colon should be distended gradually. When the bowel is fully distended the air or water should be retained for at least twenty minutes. The injection may be accompanied by gentle kneading of the intussusception tumor, when such exists. I think that it is a matter of primary importance that the bowel should have been rendered quite still by means of opium or belladonna before the attempt at reduction by injection is commenced. I cannot understand upon what mechanical principles the inversion or shaking of the patient is recommended in these cases. Before such a method were adopted the exact position and extent of the invagination would have to be most accurately diagnosed. It is obvious that these measures will have no effect when once the invagination has become irreducible. It is to be regretted that at present little is known of the precise circumstances under which such irreducibility takes place. It is known that the invagination may become fixed within a few hours of its formation, and it is needless to remark that adhesions play comparatively a small part in causing an *acute* invagination to become irreducible. Should the measures so far advocated fail after a patient trial, I would strongly urge that a laparotomy be at once performed. If enemata fail early in the case, they are not likely to succeed at a later period, and every hour that elapses renders the prospect of gangrene more immediate.

Against laparotomy in these cases many objections have been urged. In the first place, it is pointed out that an acute attack may become a chronic one. This is true, but the occurrence is very rare. By far the greater number of the patients do not live long enough to enter upon the chronic stage. Moreover, chronic invagination is exceedingly fatal, and out of fifty-nine recorded cases, taken without any selection, I find that there were no less than fifty-one deaths. A far more important objection, however, depends upon the frequent occurrence of spontaneous cure at a period when the patient is *in extremis* and the case desperate. Temporizing is constantly being urged upon this ground.

One case of spontaneous cure is an argument against a score of proposed operations. An examination of the matter shows that little dependence is to be placed upon this mode of ending. "Elimination of the gut by gangrene occurs in about forty-two per cent. of all cases; but when it has occurred it by no means follows that the patient recovers. In fact, no less than forty per cent. of the cases of spontaneous elimination die of the immediate results of the process of separation. Moreover, during the first year of life spontaneous elimination occurs in only two per cent. of the cases, and between the ages of two and five in only six per cent.; and when it is remembered that more than fifty per cent. of the total number of examples of intussusception occur in children under ten, it will be seen that elimination by gangrene offers no very extensive prospects of spontaneous relief. It is true that the older the patient the more chance has he of recovery by this means; but it unfortunately happens that the older the patient the higher is the mortality after the occurrence of the elimination, so that the chance of cure becomes remarkably slight" ("Intestinal Obstruction"). In favor of the operation it must be pointed out that the affection is very acute, that the general mortality of the disease is seventy per cent., and that eighty per cent. of the patients die before the seventh day. I would venture to urge that in these acute cases laparotomy should be performed at least within the first forty-eight hours, and if possible within the first twenty-four hours, provided, of course, that all other measures have failed. When the abdomen has been opened, the invagination should be reduced if possible. The reduction is best effected by squeezing the intussusception with one hand, while gentle traction is brought to bear upon the gut entering the invagination with the other. Should the mass be found to be irreducible or in a condition that threatens gangrene, the whole of the involved bowel should be resected and a temporary artificial anus established. It appears to me that there is little to recommend the operation of enterotomy for this class of cases. This measure is certainly readily performed, but it is of the nature of a cut in the dark. It will relieve the obstructive symptoms, it is true, but it will leave the invagination untouched, and leave it possibly to pass on into a state of gangrene or a condition that may lead to diffuse peritonitis.

A CASE OF RATTLESNAKE BITE SUCCESSFULLY TREATED WITH THE PERMANGANATE OF POTASH.—Dr. B. Hall Smith reports the following case in the *Atlanta Medical and Surgical Journal:* While practicing medicine at Graham, Appling County, Ga., I was summoned at sundown on the afternoon of the 31st of May, 1883, to attend John Myers, a farmer, who had been bitten by a large rattlesnake. Being somewhat delayed in responding immediately, I gave the messenger (the victim's son) a bottle of pure carbolic acid, instructing him to make all possible haste, cut deep down into the punctures made by the fangs of the serpent, and pour in some of the acid. Arming myself with a bottle of whiskey (the procuring of which had caused my delay), and a bottle of permanganate of potash, I mounted a swift horse, and soon reached the bedside of the injured man, a distance of six miles from my office. I found him completely under the influence of the poison, the symptoms of snake-bite showing themselves in a marked degree: exceeding cardiac weakness, dilatation of the pupil, and great prostration. The directions given his son had been thoroughly carried out, and the wound was well cauterized. I at once attempted to give him some whiskey, but found his stomach too irritable to retain it, he, unfortunately, through the advice of some friends, having swallowed a quantity of tobacco juice, which produced such nausea as to render futile any effort to administer medicine by the stomach. I at once resorted to my hypodermic syringe, and gave a number of injections of whiskey, inserting the needle deeply into the tissues of the deltoid muscle. Immediately following, I began with the permanganate of potash, dissolving 2½ grains in 30 minims of water, and injecting it into the tissues of the leg and arm; this I repeated every twenty minutes or half hour, alternating with whiskey and an occasional dose of diluted spirits of ammonia. I continued these remedies by the hypodermic method for three hours, when the pain of the sufferer became so great that I gave him the third of a grain of morphia, which somewhat relieved his restlessness. I continued my efforts, as described, for two hours more, when Dr. James H. Latimer, of Hazelhurst, Ga., came to my assistance, and the result of our consultation as to prognosis was that in an hour the case would terminate fatally, Dr. L. remarking at the time that this was the twelfth case of the kind he had been called to, and the only one in which he found the patient alive when he reached him. Dr. Latimer agreeing with me regarding the treatment, we exerted ourselves for an hour longer, at the end of which time the patient had become so much worse that we abandoned all hope, and his relatives and friends assembled around his bed to await the fatal issue. Indeed, he had every appearance of immediate dissolution, and it seemed as though every breath would be his last. At this juncture I asked permission to make one more effort to save him; my request was reluctantly granted by his family. I then gave him a number of hypodermic injections of whiskey, and perhaps one of sulph. ether, and afterwards the permanganate of potash. In a few minutes his condition was less alarming, and with renewed hope we urged the same treatment with such good results that at the end of two hours he was so much improved that I was permitted to leave him for a short time. This improvement continued, and by morning I considered him almost out of danger. At 8 o'clock, being called away, I left Dr. Latimer in charge, and did not return until 5 o'clock in the afternoon. During my absence the syringe got out of order, and the milk that was given him was immediately vomited; however, I had another syringe, and gave him ⅓ grain of morphia with a happy effect; he was soon able to take nourishment *ad libitum*. There was considerable sloughing around the wound, but repair was rapid and his recovery uninterrupted.

A CASE IN WHICH A PATIENT REMOVED FORTY-THREE CALCULI BY A NOVEL METHOD FROM HIS OWN BLADDER. (James Murphy, B.A., M.D., in the *British Medical Journal.*)—About five years ago, the patient, whose age was about fifty, and who had always enjoyed good health, was very much surprised to find one day, as he was passing his urine, that it suddenly stopped before the bladder was relieved, and on consulting his medical attendant the latter passed a silver catheter, and immediately struck a stone. The patient was apprised of this, and lithotrity was suggested; but, being of a mechanical turn of mind—he was by profession an architect—he declined to submit to any operation, preferring first to see what he could do in that way himself. While thinking the matter over, and maturing his plans, he spent several days in trying to get the stone back into the urethra, with a view of ejecting it by a sudden flush of urine, and for this purpose he tried several positions—on his face, knees, etc.; but though he could feel the stone fall on the neck of the bladder, and, as he thought, touch the entrance to the urethra, he failed to make it enter the latter. After some deliberation, he constructed an instrument, consisting of a Florence flask, into which a cork was tightly fitted. The cork was perforated by a bone tube, into which a No. 10 black French catheter was made to fit with a screw, and, to make it perfectly air-tight, an india-rubber band could be rapidly passed over the joint. Owing to the extreme thinness of the glass in the Florence flask, boiling water could be poured into it, and he had some of the straw covering fitted on to the end of it, which, being a bad conductor of heat, enabled him to hold the flask after the boiling water had been poured out, while he screwed it on to the catheter previously introduced into his bladder, and produced a vacuum by the application of cold cloths to the flask. He then had an aspirator constructed, very similar to that used by Sir Philip Crampton many years ago, but of which, it is needless to say, he had never heard. He made several attempts with this instrument to get the stone into the urethra, for he never contemplated removing it directly by the aspirator, but never succeeded, as, not having a stop-cock as in Crampton's aspirator, the formation of the vacuum was too gradual to form a sufficiently rapid current for this purpose. He therefore soon devised another form of aspirator, which was simpler in construction, and more efficacious in use. He purchased a large ear-syringe, to which he fitted on a No. 10 catheter, from which he had removed the end as far as the eyelet; and while his bladder was full, he got on to his knees, rolled the stone about till he considered he had it at the entrance to the urethra, then gently passed his catheter with syringe attached till he struck the stone; then, without displacing the stone, he gently withdrew his catheter about an inch, and rapidly pulled out the piston, and, after some failures, succeeded in getting the stone into the urethra, when, by means of straining at first, and afterwards, when it came within reach of his fingers, by external manipulation, he had the satisfaction of at last getting the stone into his hand; but he found his troubles were not then ended, for he found there were some others, which he removed in the course of a few days. He then continued quite well for some time, these operations of what may well be called "litholapaxy" in no way inconveniencing him; but after the lapse of several weeks he found the old pain in his right loin (indicating the passage of a calculus through the ureter) returning; and, after it had ceased, he again removed a couple of stones, in the same manner as previously; and so matters continued for a space of two years, calculi forming now and then, generally two or three being passed by the right kidney (never from the left) in rapid succession, and then being removed from his bladder; he continued well for several weeks, when the same process was gone through again. At last, getting tired of this breeding of stones, as he termed it, he was induced to go on a diet in which alcohol and saccharine fatty matters were avoided; and, in a little time, no more stones were found, and it is now nearly two years since he has been troubled with one. In all, he removed forty-three uric acid calculi, varying in size from a No. 6 shot grain to a large pea. He generally removed them as soon as they entered the bladder, and became so expert latterly that he could generally bring the stone into the urethra in two or three attempts; but, if he were otherwise engaged, he did not trouble much about the calculi, and sometimes kept them in his bladder for a couple of weeks without removing them. But this is a practice which he cannot recommend; for he assured me that as soon as a calculus entered the bladder, the sooner it was removed the better. He knows each of the calculi by distinctive marks, and has an anecdote about most of them. One bears the mark where it was struck by the silver catheter; another was stopped in the urethra by coming sideways, and had with much difficulty to be flushed straight; another he calls the "porcupine," as he drank some medicine to try to dissolve it, with, he alleges, the unpleasant result that the soft parts disappeared, and left several rough edges, which made him feel as if he had the fretful animal in his bladder. As is usual, a distinct history of gout was obtained.

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PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre	equal to	15	troy grains	water.
1 centrilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. " "		455 69-100ths "
1 fl. gallon " "		231 cubic inches.
1 fl. pint " "		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudes, heimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

CASCARA SAGRADA.—Dr. T. H. Russell, Professor of Materia Medica in the Yale Medical School, writes to the *Medical Age:*

I used samples of the fluid extract furnished direct from Parke, Davis & Co., and another sample of Parke, Davis & Co.'s purchased at a drug store in this city. Also used samples furnished by Henry Thayer & Co. Have used these fluid extracts in doses of ten to twenty-five drops every six or eight hours as a laxative, and in single doses of from m. xlv to f ʒiiss as a purgative. Have found the different samples above mentioned equally efficient, and perfectly uniform and reliable, as shown by the results produced. It is a very valuable, gentle laxative in doses from fifteen to twenty-five drops three times daily, and in these doses produces no unpleasant effects of any kind whatever. It is a prompt and very reliable cathartic in doses of from m. xlv to f ʒiiss, generally acting efficiently in six or eight hours. Unless the patient is rather obstinately constipated, a dose of f ʒij or f ʒiiss is pretty certain to produce from two to four copious, rather "mushy" stools, attended with slight, transient griping. If the dose produces four or five stools, the first two are moderately soft, and the last two or three very soft, but not quite fluid, and just perceptible rectal tenesmus accompanies the last two or three stools. In several such cases the last one or two stools were covered with a small amount of mucus. It is not hydragogue in any of the doses above mentioned. In order to get an accurate idea as to the character of the stools produced by it, I asked eight of the advanced medical students to notice carefully the consistence, color, frequency, and other characteristics of their stools as accurately as possible for three days, and, continuing their customary diet without variation, to subsequently notice the results of a single dose of the drug. Each was to take a single dose at bedtime. I arranged the doses so that I should get reports concerning f ʒj, f ʒj¼, and f ℥iss and f ℥j¾ dose. Among these eight individuals were some who were habitually constipated, others whose bowels were previously regular, and others whose bowels were habitually slightly loose. One had been passing hard, very light, almost white, dry stools; one had been passing very dark, rather green, moderately soft stools. The stools of all the others were previously brown. The results of a single such dose at bedtime in each case was that within twelve hours it changed the black stools to a yellowish-brown color, the white clay stools to a dark-brown, and the stools of all the others to a yellowish-brown color. At the same time it produced the purgative action before mentioned. In my own case a single dose of f ʒj would change my yellowish-brown stools to a lemon-yellow color. Thus a single dose of f ʒj to f ʒij caused the stools to become more yellow within twelve hours in all the cases noted. I do not think that its effects are diminished by constant use. I believe that in doses of from fifteen to thirty drops, given three times daily, it is an admirable remedy for habitual constipation. Much better effects are obtained from such doses than from f ʒj or f ʒij doses given less frequently. In none of the doses above mentioned have I found it to cause the slightest unpleasant symptoms, excepting that f ʒiss to f ʒiiss doses produced slightly too free catharsis, with slight transient rectal tenesmus. The stools produced by moderate doses of it are so copious, soft, and unirritating that it must be well suited to cases afflicted by constipation with hemorrhoids, fissure of the anus, etc. It is a remedy of great value, and should occupy a prominent position in our materia medica.

JENSEN'S PEPSIN.—"The increasing use of medicaments to relieve digestion, whether from impaired bodily functions or from violating those laws of nature which lead to the enjoyment of continued health, has found no one remedy that in its beneficent results has exceeded in usefulness that of Jensen's Pepsin. The solvent power of this article on indigestibles and the assistance it renders to enfeebled digestive apparatus is remarkable. It is an article which merits selective distinction on the part of the physician, and we are glad to know in results, reputation, and reliability it is not approached by any one of its imitations."—PROF. BEDFORD *of New York College of Pharmacy, Pharmaceutical Record.*

HOW IODOFORM SHOULD BE PRESCRIBED.—1. To make a deodorized powder the iodoform must be in a very fine powder, likewise the chemical used to deodorize, and very thoroughly incorporated, and let stand for one or two months in a glass-stoppered bottle.

2. To make ointments, take the deodorized iodoform and mix with vaseline or cosmoline, as the best base for the ointments.

3. In making into a pill mass add glycerin, which will keep the pill moist for a long time, owing to the hygroscopic properties of the glycerin.

4. To make suppositories, melt the ol. theobromæ at a gentle heat and stir in the deodorized powder, and pour into molds of usual size.

5. To make the ethereal solution, add deodorized powder to the ether; can use one drachm to ounce of ether, or more if desired.

6. To make nasal bougies, cut a slender piece of fine, strong sponge, about

one inch and a half long, roll between two boards with pressure in shape of a thin cylinder, place a piece of strong silk through one end, and melt by gentle heat the vaseline or cosmoline with the white wax, and stir in the deodorized iodoform ; keep stirring, and immerse the sponge, and withdraw and cool and immerse again, and repeating until large enough (but stirring constantly), or about the size of a goose-quill ; then hang up by silk until cool ; then coat with a solution of gelatine containing about ten per cent. of glycerin, which will easily melt at the temperature of the body. The bougie should be introduced into the nasal cavity at night and withdrawn the next morning. One will do for several applications.

7. Can also use the deodorized iodoform by mixing with solution of collodion or solution of gutta-percha, by mixing the powder with either solution and painting the parts and let dry, then paint over the first with the pure solution. By this means we prevent the iodoform from volatilizing by this impenetrable coating, and secure the action of the deodorized iodoform.

The following formulæ I have satisfactorily used, and recommend them after making many experimental combinations :

Pulv. No. 1.

℞. Iodoform, parts 9 ;
Coumarin, part I. M.

Pulv. No. 2.

℞. Iodoform, parts 9;
Vanillin, part 1. M.

Pulv. No. 3.

℞. Iodoform. parts 9 ;
Acid, cinnamic, parts 2. M.

For Ointments.

No. 1.

℞. Pulv. Nos. 1, 2, or 3, parts 60 ;
Ung. Petroli, parts 420. M.

For Pills.

℞. Iodoform, ʒi ;
Vanillin,
Coumarin, aa gr. v;
Glycerin, gtt. v ;
Bals. Peru, q. s.
M. et fiat mas et div. in pil. No. xxx, silver-coated.

For Ethereal Solutions.

No. 1.

℞. Pulv., Nos. 1, 2, or 3, ʒi ;
Ether, f℥i. M.

—*Dr. C. P. Stout in the Therapeutic Gazette.*

TREATMENT OF BRIGHT'S DISEASE.—In the *Gazette des Hôpiteaux*, is published a lecture recently delivered by Professor Jacoud on the treatment of Bright's disease. The lecturer divides cases of Bright's disease into two classes: *a*, urgent, and *b*, those unattended by urgency. One phenomenon which constitutes urgency is dyspnœa (not uræmic), which may be the consequence of ascites, or hydropericardium, or of hydrothorax, or of a bad condition of the blood. Another urgent symptom is repeated vomiting.

The author then speaks of those cases which are devoid of urgency. In these cases the most absolute rigor must be laid down and maintained with regard to diet, beginning with an exclusively milk regimen. A purely milk diet is not agreeable, but the patient must take a sufficiency of milk necessary to prevent the sensation of hunger, without overloading the digestive organs. The milk should be given cold, but, if it cannot be tolerated cold, it must be warmed in a water-bath, but not boiled, and it must be taken without the addition of salt or sugar. It should be taken in moderate quantities every hour, and the mean quantity necessary during twenty-four hours is about five pints. The disagreeable taste and the obstinate constipation which follow such a diet generally disappear after three or four days if enemata be used instead of aperients by the mouth. After three or four days of milk diet, and if the case be purely renal, without cardiac and pulmonary complications, and with no dropsy, it is well to begin giving a cold douche daily, taking care at the time to protect the lumbar region. At first the duration of the douche should be fifteen seconds, proceeding to twenty, twenty-five, and thirty seconds, which is the maximum. After the douche the patient must be rubbed down very energetically, made to dress quickly, and then take a certain amount of walking exercise. The patient should wear flannel drawers and waistcoat. After having persevered in the milk treatment for about a month, and if the albumen have diminished considerably, it is advisable to allow, in the middle of the day, a little broiled meat, with herbaceous vegetables, a little bread, and a glass of red wine deprived of all acidity. No eggs must be on any account given, and at least three pints of milk must still be taken during the day. The douche treatment and regular exercise are still to be kept up, and the urine must be carefully examined; for, should the albumen increase after the alteration of the diet, the patient must at once go back to the milk, and have recourse to a special treatment, involving the inhalation of oxygen in doses of thirty litres daily, performed at about three sittings a day. If, after two or three weeks, nothing has been gained by this method of treatment, the author resorts to drugs, using two or three grammes of tannin in pill during the twenty-four hours, or doses of gallic acid to the extent of half a gramme to one gramme daily. If these do not answer, ten drops of tincture of perchloride of iron (increasing to twenty-five or thirty) are given twice a day, with a pill containing two centigrammes of nux vomica in the intervals. This dose may be increased to six or eight or even ten centigrammes in the day. In cases of great urgency the author advocates general venesection, which should be repeated in twelve or twenty-four hours according to symptoms. In cases where the urgency is not so marked, he finds great advantage in the use of a compound of scammony, jalap, and turpeth mineral, called *Eau de vie Allemande*, which may be given in doses of thirty or forty grammes. It produces an effect in two hours. The author concludes by making a few remarks on the necessity of giving the milk diet a good trial, and of not being disheartened if, at first, it disagree with the digestion.—*London Medical Record.*

STROPHANTHIN, THE NEW DIURETIC.—Professor Fraser's paper on strophantus hispidus, read in the Section of Pharmacology and Therapeutics, at the meeting of the Association at Cardiff, places us in the possession of a new and valuable heart remedy and diuretic. It appears that the drug is extensively used in many parts of Africa as an arrow-poison. In the Mangauga district, near the Zambesi, it is called "kombe," whilst in Senegambia and Guinea the name "Inee" is more commonly employed. Dr. Livingstone, in his "Narrative of an Expedition to the Zambesi," refers to this poison, and says the arrows are usually made in two parts. "An iron barb is firmly fastened to one end of a small wand of wood ten inches or a foot long, the other end of which, fined down to a long point, is nicely fitted, though not otherwise secured, in the hollow of the reed which forms the arrow-shaft. The wood immediately below the iron head is smeared with the poison. When the arrrow is shot into an animal, the reed either falls to the ground at once or is very soon brushed off by the bushes, but the iron barb and poisoned upper part of the wood remain in the wound. If made in one piece, the arrow would often be torn out, head and all, by the long shaft catching in the underwood, and striking against trees." The plant which yields the poison belongs to the Apocynaceæ, and has been described and figured by Professor Oliver, of Kew, under the name of Strophanthus Kombe. It is a woody climber and flowers in October and November. The follicles vary in length from ten to twelve inches, and contain from 150 to 200 seeds, each weighing about half a grain, and bearing a beautiful plumose tuft, placed at the extremity of a delicate stalk. They contain no alkaloid, but are rich in an active principle, which Dr. Fraser calls "strophanthin." This is a crystalline substance of intense activity, which seems destined to play an active part in our list of heart remedies. In physiological action it is allied to digitalin and other members of the digitalis group. It has been used, both experimentally on animals, and clinically in the wards, at the infirmary at Edinburgh. The dose for hypodermic use is from one hundred and twentieth to one sixtieth of a grain. In the discussion which followed the reading of Dr. Fraser's paper, Dr. Murrell pointed out that the introduction of strophanthin would serve to commemorate in a way which would otherwise be impossible the centenary of the publication o Withering's classical work on the "Foxglove and Some of Its Medical Uses.' —*British Medical Journal.*

VINEGAR IN DIARRHŒA AND DYSENTERY.—Premising that Dr. John H. Brinton used to recommend, fifteen years ago, injections of cider vinegar in gleet, we note the following practical contribution from Dr. Amos Sawyer to the St. Louis *Medical and Surgical Journal*, January, 1885: "About a quarter of a century ago, when giving me some good advice for a young practitioner to follow, the late Dr. B. F. Edwards, of St. Louis, Mo., whose accuracy in the measurement of the action of remedies, truth in statement, and justice toward the members of the profession, made him a shining light in the early history of our State, among other things, says:—'Never make fun of an old woman's remedy, for not only will you give offense and thereby injure your practice to the extent of her influence, but you may throw away what would have proved upon trial to be a valuable adjunct in your practice.' He then cited this case to illustrate the importance of his injunction: 'In 1839, while practicing in Madison County, Ill., I was induced by the representations of *an old woman* to make the trial, in dysentery and diarrhœa, of tablespoonful-doses of *pure cider vinegar*, with the addition of sufficient salt to be noticeable, and it acted so charmingly that I have never used anything else.' He was prescribing it in 1870, making it a period of forty years."—*Medical and Surgical Reporter.*

THE TREATMENT OF DIPHTHERIA.—Dr. J. W. Alexander, of Newark, O., writes to the *N. Y. Med. Record* in favor of the constitutional treatment of diphtheria. He thinks that local applications of any sort are of doubtful utility, although, as palliative measures, antiseptic and disinfectant washes are not to be ignored. All caustics and irritants are injurious, he maintains, and should never be used. The following is the formula which he has used with success in many cases: ℞. Chlorate of potassium, 40 grains; simple syrup (slightly warmed), 2½ ounces; dissolve and add aromatic sulphuric acid and tincture of chloride of iron, of each one fluidrachm. The dose for adults is a teaspoonful every two to four hours, according to the urgency of the case. As soon as the symptoms begin to improve the dose should be decreased and the interval extended, but the remedy should not be discontinued until the throat is entirely free from the diphtheritic deposit. Dr. Alexander states that he has used this method of treatment constantly for several years, during which time he has lost but one case of diphtheria, and that one was not seen until the disease was too far advanced to be stayed by any remedy. He writes in conclusion: "It may seem that there is nothing remarkable in the above combination, as chlorate of potassa and tincture of iron are used by nearly everyone, but the union of the three articles combined in these proportions has produced very marked results. I will not attempt an explanation of the *modus operandi* of this medicine, but will leave it to those who are more competent; but if I can persuade any of my professional brethren to give this simple remedy a trial, I shall have accomplished my purpose."

COCA WINE.—The marked interest which has of late been aroused in coca wine, and the immense impulse given to its manufacture by chemists everywhere, recalls the interesting fact that its great virtues were first given to the profession in the Vin Mariani, which still maintains its enviable reputation for purity and reliability. It is not so very long since Dr. Lennox Browne called the attention of the profession to its great value to singers, and this special quality, it now seems, is common to all genuine preparations of coca. Probably the best preparation for throat troubles, however, on account of its direct and continued effect upon the mucous membrane, is the crystallized coca lozenge (known as the Pâte Mariani), which Messrs. Mariani are now manufacturing. As a strengthener of the voice it is said to be unequalled.

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this. It will publish therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

NEW YORK PATHOLOGICAL SOCIETY. STATED MEETING APRIL 8, 1885, JOHN A. WYETH, M.D., PRESIDENT, IN THE CHAIR.

INTUSSUSCEPTION.

Dr. J. Lewis Smith presented a specimen showing intussusception, with the following history: T., male, aged six months, bottle-fed since the age of a few weeks, has been fretful, and has had frequent attacks of colic and indigestion, as long as he has been artificially fed. On the afternoon of March 28 he began to vomit and to suffer more than usual from pain, which occurred in frequent paroxysms. In the intervals he was apparently comfortable and without suffering. During the subsequent night he slept little, in consequence of the pain and vomiting, and on the following morning I first visited him. His surface at this time was cool and he was apparently without fever. He took his food readily from the nursing bottle with apparent relish, but most of it was soon after rejected. In the intervals between the attacks of pain he was quiet and without symptoms to indicate the severe disease which was present. As he had been an habitual sufferer from indigestion, I did not at first suspect intussusception; but as the pains seemed to me to be too severe for ordinary colic, I returned in a few hours for a more thorough examination. I was informed that, during my absence the infant had passed a few drops of blood without fæces, and that the vomting and pain had not abated. This excited my suspicion of an intussusception. A large clyster of tepid water was now used. This was returned, with a considerable quantity of blood and small blood-clots, and with only two small fæcal masses, which had probably, from the beginning of the intussusception, lain below the invaginated part. No tumor could be felt in the abdominal cavity. Twenty-four hours had elapsed since the displacement had occurred; there was no marked distention or tenderness of the abdomen, and apparently no fever. Immediately the treatment was commenced which, in my hands, has been most successful. The nates were raised nearly to a perpendicular above the shoulders, the rectal-tube for the adult introduced, the anus pressed firmly against the tube, and as much tepid water as possible injected. The amount retained could not be estimated, as a considerable portion of it was forced back by the efforts of the infant. When the abdomen was distended by the water, it was firmly kneaded, the fingers following the course of the colon, so as to aid in pressing back the invaginated gut, the displacement being always from above downward. During the operation, and immediately after, the sufferer always seemed somewhat relieved, but the symptoms soon after returned. The enemata and the kneading were repeated at intervals, but the displacement remained. On the following day the temperature was 100 4-5 F., the abdomen was not notably distended, the loss of flesh and strength was not great, and I proposed laparotomy as the only means of saving life. Consent was not obtained until the following day, the 31st, when Dr. Sands, who saved the life of an infant of the same age by the operation, saw the case with me. As the pulse was 146, the temperature 103 4-5, the abdomen considerably distended, as if from peitonitis, which, however, had not occurred, and no tumor had been and none could be detected, it was thought expedient not to perform laparotomy. On the following night the infant died.

AUTOPSY.—Abdomen much distended from fecal matter above the intussusception, and water below it; no peritonitis; the invaginated mass lay in the first half of the transverse colon, against the under surface of the liver, and deeply located. Its length was about three inches, and the appendix vermiformis and the ileum protruded from its lower end. The ileum occupied the site of the ascending colon.

REMARKS.—With few exceptions intussusception begins with prolapse of the ileum through the ileo-cæcal orifice, so that it is surrounded and grasped by the valve, or with the inversion of the caput coli, which becoming invaginated in the ascending colon draws after it the ileum. Hence the caput coli and the terminal portion of the ileum are the incarcerated part, and the ascending colon is the external or incarcerating portion. All the parts engaged in an intussusception may pertain to the colon, as in the specimen which I presented to the Pathological Society in 1882, which was removed from the body of a child who had suffered from the displacement several weeks, and had the tumor in the left side of the abdomen, which was pervious so as to allow daily fecal evacuations. The displacement may also occur in the course of the small intestine, but such instances are so rare that, when called to a case, we may safely assume that we are to treat an intussusception which has commenced in one of the two ways stated above. During the last two years I have treated successfully by water enemata, employed in the manner mentioned above, three cases of what I diagnosticated intussusception, basing the diagnosis on the presence of constipation, severe pains, vomiting, bloody stools in two of the patients, and an evident tumor in one of them. It is very important for success that the physician should be called early, make a correct diagnosis,and employ the enemata perseveringly during the first day, unless the symptoms indicate that the disease is removed. Unfortunately, as I have had opportunities to observe, the patient is often treated for dysentery on account of the bloody stools, until the displacement is too great to be remedied. Purgatives, as castor oil, given to obviate the constipation increase the intussusception. Early diagnosis and early and correct treatment by the water enemata will, I believe, cure a large proportion of cases. Professor Sands, when inspecting the specimen in the present case, made the remark that we nearly succeeded in the reduction. Probably success might have been achieved by treatment commenced twelve hours earlier. Formerly I have employed inflation by carbonic acid gas, which can be used by inverting a siphon of carbonic acid water and attaching the tube to the arm of the bottle. I have also employed air introduced by the bulb, especially the double bulb which accompanies the ordinary atomizer, but my preference is decidedly in favor of treatment by water. In one instance I think that the air ruptured the gut, but the child had been some days sick. The impossibility of detecting the tumor in certain cases, and the fact that it does not remain where it formed, but passes along by the tenesmus in the course of the colon, drawing after it the ileum, as shown by this case, are noteworthy particulars.

Dr. W. P. Northrup remarked that treatment of intussusception by means of enemata of water seemed to be the best method that could be adopted. He had been interested in seeing how readily intussusceptions found at autopsy unravelled when the rectum was attached to the hose-pipe and a moderate stream of water allowed to enter. He believed that the method of treatment by injections of water was the best that could be employed, short of an operation.

Dr. L. E. Holt referred to cases reported in the *British Medical Journal* in which the gut had been ruptured by distention with gas and water, and the writer took the ground that, when these measures did not succeed within forty-eight hours, laparotomy should be performed at once, before inflammation and adhesions had taken place.

Dr. Smith thought the condition of the gut showed that an operation on Tuesday would have been proper in his case ; but of course they did not know for certainty, at that time, what the exact condition was.

Dr. Holt said, the point which he wished to make was, that changes in the gut as the result of the strangulation were liable to be so great that the operation, if performed at all, should not be delayed.

The President remarked that it had been his custom not to wait longer than twelve to twenty hours, even if the diagnosis was somewhat doubtful, before making an exploratory incision at least, which, if antiseptically performed, was not specially dangerous.—*N. Y. Med. Record.*

ORIGINAL CORRESPONDENCE.

LETTER FROM PARIS.

15 Rue Caumartin,
Paris, Sept. 20th, 1885.

To the Editor of Gaillard's Medical Journal:

DEAR SIR: M. Chantemesse has just communicated to the *Academy of Medicine* the results of his examination of the vaccinal fluid of Ferran. He had submitted to him two specimens—one used by Ferran for his vaccinations at Valence, and another recently sent by him to Paris.

The animals inoculated with the *first* specimen died in as short a time as those to which it was given by the stomach; and it was found to contain numerous micro-organisms, some of which were inert and others toxic.

The *second* specimen was found to contain *bacilli virgules* in abundance, some small, and others even microscopic ; and the following facts were gathered respecting it:

1st. It was not a homogeneous fluid, but a compound one, being made up of *bacilli virgules* and of masses of micro-organisms having no relation to cholera.

2d. Vaccinations with that portion which contained microbes produced no effect—were perfectly *nul* in their results; while inoculations with the other portion gave rise to no choleraic symptoms, but proved inoffensive or were followed by abscesses. Cultivated separately, these micro-organisms showed different morphological qualities and pathological properties, and when injected in large quantities they occasionally produced death.

With this authoritative refutation of Ferran's hypothesis the vaccination bubble bursts, and he disappears with its *débris*. The scourge remains master of the situation, while its self-crowned conqueror has been relegated to his original obscurity and insignificance. Instead of descending to posterity "wrapped in the mantle of immortality," as he fondly dreamed, he finds himself recompensed with derision and doomed to oblivion. Panoplied in inherent pride, and bristling with the courage of his aspirations, he made a splendid fight against jealous rivals and opposing schools for the fame and fortune which were the goal of his ambition, and it was impossible to look upon the unequal contest without experiencing a sentiment of respect and sympathy for the bold man who thus braved its perils in the name of science and humanity. But the struggle is over, and, dominated by the omnipotence of truth—as eliminated by the *experimentum crucis* of an impartial scientific analysis—the curtain falls at once and forever upon Ferran and his magnificent but delusive dream. *Hinc illæ lacrymæ.*

Dr. Hélat has discovered a simple but invaluable method of testing the quality of milk. It consists in a comparison of the number of drops of that fluid required to fill the space in an ordinary hypodermic syringe previously occupied by a certain number of drops of water—the proportion of good milk being *thirty-five* drops for *thirty* drops of water. Sometimes the number is *thirty-eight*, and then again it is *thirty-three*, the greater number indicating a superior quality, and the smaller number an inferior quality, of the specimen examined.

Doctor Valade of this city has made a new application of the antiseptic method to ocular surgery. By means of a syringe of his own construction, he washes out the anterior chamber with a 1-25,000 solution of binodide of mercury in the following conditions: 1st. After the operation for cataract. 2d. When suppurative action is occurring in that locality; and 3d. In cases of ulceration of the cornea, in connection with the use of the thermo-cautery. He reports an invariable success.

Doctor Dethil of Nogent-sur-Marne advocates the employment of fumigations of coal-tar and the oil of turpentine in diphtheria. He states that he has thus treated *sixty-eight* cases, and has had but *four* deaths. He also recommends these fumigations as a prophylactic against the contagian of diphtheria, and gives as an evidence of their value the fact that out of 364 persons who had been exposed to the disease and were thus treated, only two persons were attacked, and that very mildly.

Dr. Luton, of Reims, read a paper before the *Association for the Advancement of Science*, which recently assembled at Grenoble, on the "Intra-Muscular Injection of Metallic Mercury for the Cure of Syphilis," in which he made the following points:

1st. Muscular tissue affords a specially direct avenue for the introduction of mercury into the system.

2d. The absorption of mercury, when thus injected, is established by the following facts: (*a*) the production of its characteristic therapeutical effects; (*b*) the frequent occurrence of mercurial salivation; (*c*) the discovery of the metal in the viscera and tissues of inferior animals.

3d. Sulphur employed as an electuary, in five gramme doses daily, is a better remedy than chlorate of potash against mercurial salivation.

4th. The dose of metallic mercury should be at least one gramme daily to begin with.

5th. The advantages of this mode of medication may be thus summed up: 1st, its efficiency; 2d, the conservation of the alimentary tract; 3d, the facility afforded for selecting the points and the intervals at which the injection can be made.

6th. Intra-muscular injections of mercury are only recommended, at present, for the most severe and inveterate cases of syphilis in their tertiary stage.

Doctors Goselin and Heret have communicatd to the *Academy of Sciences* some interesting facts relative to "The Action of Bismuth in the Dressing of Wounds," which may be thus formulated:

1st. The subnitrate of bismuth, though not absolutely a desicant, as claimed by Kocher, of Berne, undoubtedly restrains the flowing of blood and the development of pus, when applied to wounds.

2d. This restraining property is very variable, sometimes being very pronounced, and then scarcely perceptible, while there is frequently a delay of some hours in its manifestation.

3d. From observations made on inferior animals, dressings with bismuth secure *immediate union* in a majority of instances, while the amount of pus produced is generally inconsiderable. In some exceptional instances union is delayed, and an abundance of pus produced, but in no case is there a discharge or an accumulation of blood such as is observed when silica, starch, and nitric acid are applied to wounds.

4th. The hydrate of bismuth was employed seven times on the wounds of inferior animals, with the following results: in three instances *immediate union* was secured; in one instance the cure was only a little less rapid, with only a very small amount of suppurative action, and in these cases union took place slowly, and was attended by an abundant discharge of pus. Blood was not discharged or accumulated in a single instance.

5th. This limitation of the flow of blood is manifestly not due to any coagulating power possessed by bismuth *per se*, since when added to solutions of albumen or fibrin, it produces no change in them, but falls, *en masse*, to the bottom of the vessel. It is probably due to the astringent action of the nitric acid contained in the salt, and to the sedative impression made upon the nerves of the wounded part by the metal. Three factors, probably, combine to produce this phenomenon, viz.: liberated nitric acid acting as a coagulant and astringent, liberated oxygen acting as an astringent, and bismuth producing a sedative impression upon the nerves of the wounded part.

6th. It is better to employ the subnitrate rather than the hydrate of bismuth in this connection, inasmuch as no experiments upon man have been attempted with the *latter*, and as the *former* possesses, when chemically decomposed, the coagulant and astringent properties previously described.

7th. The subnitrate of bismuth may be employed in the form of a dry powder, or mixed with water in the proportion of one to fifty, or one to one hundred.

8th. When the amount of blood is small, the wound may be closed promptly; but, on the other hand, when there is much bleeding, the sutures should be introduced and not tied, and the wound left open and protected by compresses saturated with a mixture of bismuth and water until the succeeding day. In a word, the rule is to close the wound permanently so soon as it can be done without the risk of hemorrhage, as the longer the delay in closing it, the greater the danger of suppuration and of not securing immediate union.

Dr. Peter, in his recent address before the *Academy of Medicine* on the subject of cholera, stated that in the epidemic of last year Hayem tried intravenous injections in ninety cases, with a mortality of seventy-five per cent., and that in other localities they were tried *twenty-seven* times, with twenty-three deaths. He regards this method of treatment as only practicable in the wards of hospitals, where intelligent assistants and competent nurses are to be found, but strongly advises against it under other circumstances. In *l'antisepsie médicale* he has no confidence after the disease has been developed, and he regards hygiene as the best of antiseptics beforehand.

The *Journal Officiel*, in publishing the statistics with regard to the population of France in 1884, gives the excess of births over deaths as being 78,974, as against 96,843 in 1883; 97,027 in 1882; 108,229 in 1881; and 61,940 in 1880. Altogether there were 937,758 births and 858,784 deaths. In thirty-nine departments the deaths exceeded the births, the excess being greatest in the district where cholera prevailed, though there was also a slight excess in departments such as the Calvados, the Orne, the Seine-Inférieure, and others in what was formerly the province of Normandy. In the departments of Brittany, which are poor compared to those of Normandy, there was a considerable excess of births over deaths; 4,494 in the Morbihan; 3,259 in the Finistère; 3,120 in the Loire-Inférieure; 2,769 in the Côtes-du-Nord; and 1,494 in the Ille-et-Vilaine. The total number of births in the Department of the Seine (Paris) was 80,270 and of deaths 72,735, showing an excess of 7,735 for the former. The total number of legitimate births was 862,004, and of illegitimate births 75,754, being one in eleven of the whole. The proportion of births to deaths is twenty-nine per one thousand and of deaths twenty-seven per cent.

It is also made apparent by this article that the population of France increases with exceptional tardiness. Many circumstances combine to produce this result, the most potent and patent of which are: 1st. The fact that concubinage rather than matrimony is the habit of the lower classes. 2d. The great frugality of the people, with the effort which it inspires to avoid all possible sources of expenditure in order to secure a *rente* for their declining years, and a *dot* for such of their children as may meet maturity. 3d. That insatiable thirst for pleasure, and that disposition to seek it beyond the domestic circle, which are so essentially French characteristics.

To these moral obstacles to Nature's law of increase there may be added another impediment, which, though of an entirely different kind, is no less potential in its operations and certain in its results. France, like all old countries, has become contaminated by the *dejecta* of the successive generations which have inhabited it and is *ipso facto* insalubrious. Each day of its existence but subtracts from the conditions which it supplies to the maintenance of a healthy existence and increases the necessity for the recognition of the laws of sanitation. The tendency of the French mind is to cling with unfaltering tenacity to the traditions of the past, to adhere to the beaten track at all hazards and at any sacrifice. Hence it is that, though in no country of the world is there a more imperative necessity for a knowledge of the principles of hygiene and for their rigid enforcement, there is none other in which they are more absolutely ignored and persistently defied. Save in a few of the great cities of France, filth is the element in which its people breathe and have their being. With the average Frenchman the olfactories have no existence; personal cleanliness is a fiction and sanitary science a *terra incognita.*

As a natural result of this rebellion against the dictates of common sense and the demands of science, this clinging to the footsteps of their fathers without regard to the excrementitious emanations which pollute them, thousands die anuually from preventable maladies and the population fails to multiply in the normal ratio.

This pertinacious indifference to sanitation was strikingly displayed in connection with the outbreak of the existing epidemic of cholera at Marseilles. Dr. Brouardel reports that, notwithstanding the lessons of last year and his own emphatic warnings on the subject, not the slightest effort had been made to improve localities which had proved *foyers* of disease and death during the preceding visitation, while the city itself had been permitted to remain in precisely the same state of insanitation as that which had originally invited the scourge.

As a general rule, "the burnt child dreads the fire," but in this instance it seems that even the terrors of the pestilence were powerless to arouse the people of Marseilles from the lethargy which their prejudices and their habitudes had inspired, and they are but types of their compatriots in general. What would not this country be if a little of American energy, pluck, and common sense could be injected into its veins?

I am, Very truly and respectfully yours, etc.,

EDWARD WARREN-BEY, M.D., LL.D.

REVIEWS.

POST-NASAL CATARRH AND DISEASES OF THE NOSE CAUSING DEAFNESS. BY EDWARD WOAKES, M. D., Senior Aural Surgeon and Lecturer on Diseases of the Ear, London Hospital; Senior Surgeon, Hospital for Diseases of the Throat, London. Illustrated with wood engravings. Philadelphia., P. Blakiston, Son & Co., 1884.

The novel and extraordinary nature of the views which the author maintains will secure for this work a wide circle of readers, and, probably, of critics. It is written in a highly scientific vein, and its style, although unnecessarily turgid, is consistent throughout and generally clear. The plan of the book is to supplement information not usually provided in text-books on the ear, since catarrhal affections of the naso-pharynx, of which ear disease and deafness are secondary and later issues, must themselves be treated before the aural symptoms can be improved. The first three chapters, comprising about one-fourth of the volume, are devoted to an exposition of the theory that the process of "taking cold," the common cause of catarrh, is to be explained as follows: "We have in the human body a mechanism, that of the sympathetic system, which, when normally constituted and healthily operative, is capable of maintaining the nutrition of the animal man. Exaggerations or repressions of its normal activities produce those modifications of nutrition which initiate the morbid processes with which my subject is concerned. And lastly, owing to the correlating function of the ganglia implicated, these processes are localized in the several organs which exhibit them. He then goes on to say that the condition of 'susceptibility to take cold' implies the operation in the system, over a longer or shorter period, of certain morbid processes, the combined effect of which produces the prœ-catarrhal state." These morbid processes are, directly or indirectly, syphilis, inebriety, errors of diet, atmospheric and climatic environment, injudicious clothing, and mal-assimilation. Given the prœ-catarrhal state, the catarrhal symptoms under proper excitation spread to contiguous regions. "Not by continuity of tissue, but because the vessels of such adjacent textures derive their *nervi-vasorum* from a centre (ganglion) identical with that which mediates in a similar way the region primarily affected." In other words, the catarrhal manifestation is due to an excitation applied to the vaso-motor nerves supplying the vessels of the part affected, the said excitation being originally communicated by the corresponding nerve of sensation, through their common central ganglion. From this a uniform law is formulated as to the "taking cold" process, and the author adds to the plausibility of the theory by remarking that organs adjoining the one affected, and having the same blood supply, are often sharply defined from these by their freedom from any such pathological change. On the other hand, some distant region, having no apparent association with that primarily affected, is really brought into an analogous morbid state. It cannot be denied that Dr. Woake's explanation of this hitherto vexed question is ingenious and plausible and it is to be hoped that its confirmation by further study and investigation may be secured.

In dealing with the hygienic management of the catarrhally disposed the author gives precedence to the *morning bath,* " not only in the order of its occurrence in the daily routine, but in respect of its importance." He recommends, however, that care be used in taking the bath, and insists that the room shall be warm, and the patient not allowed to become chilled. Sea bathing, for those inclined to aural troubles, he deprecates. Underclothing, of weight suitable to the season, and made of a mixture of cotton and wool, should always be worn. The bedroom of a catarrhal patient should be warmed by means of a fire, and the feet kept warm.

Under the head of diet he inveighs against the excessive ingestion of sugar and believes that before the use of saccharine foods became so extensive catarrhs, gout, rheumatism, neuralgia, indigestion, etc., were less common. He advises the restriction of the amount of animal food taken, and thinks twice a day sufficient for it. While " the positive indications for these patients' diet is that they should partake as much as possible of fresh fruit, preferably oranges and lemons; also of fresh vegetables."

" It would be to the advantage of our clients if they would drink more water and less of its modern substitutes." "Tobacco-smoking in young subjects should be prohibited altogether. In older ones, if the condition of Swift's aphorism were strictly observed, to the effect that the man who daily smokes two pipes escapes both colic and toothache, possibly the elysium he promises might be realized. * * * Experience supports what theory will later on explain, viz.: that tobacco-smoking in any form is positively injurious to catarrhal patients." " Exercise in the open air is imperative."

In the chapter upon methods of examination in the section upon posterior rhinoscopy, the author alludes to the various accessory measures intended to facilitate the inspection of the retro-nasal space, "which," he says, "are alike, in my experience, hindrances rather than aids to the use of the rhinoscopic mirror. Exception must be made in favor of the so-called 'Wales method,' proposed by the Surgeon-General of the U. S. N., which for ease of application and efficiency is superior to any other."

As to the treatment of catarrh, the abortive method should be avoided. Regarding a cold as the manifestation of an effort to discharge certain deleterious agents, it should be the duty of the physician to facilitate rather than retard the eliminating process.

Aperients, therefore, should be used at the onset in all cases except when positively contraindicated. " Give plentifully such diluents as barley-water, soda-water, and milk, and in severe cases alkaline medicines, of which the citrate of potassa acts most favorably. If there be considerable pyrexia, a few doses of tincture of aconite will check this and give great relief to headache and pain generally. An equable temperature should be maintained, and if the patient be delicate he should lie in bed for a day or two, in order to favor the action of the skin.

Ear-ache, in connection with a common cold, should lead the attendant to inspect the tympanum early, when, if the drum-head be found hyperæmic a calomel purge should be given, also tincture of aconite, and three or four leeches applied to the tragus. After the leeching water as hot as can be borne should be run into the ear and frequently renewed. Poultices should be avoided, but irrigation of the naso-pharynx, with a warm alkaline solution, followed by the use of the air-bag, will give relief.

By these means fluids tending to collect in the middle ear will be expelled through the tube, and the necessity for incising the drum-membrane will usually be avoided.

The statement "that acute catarrh is contagious there is in my mind no doubt," seems inconsistent when compared with the ideas advanced in the earlier part of the book.

In chronic hypertrophic catarrh of the naso-pharynx deafness may be due to catarrh of the tube itself; to the condition of the nose, when its inferior meatus has suffered occlusion from the presence of hyperplasias connected with the inferior turbinated bone or septum; and, lastly, by a paretic state of the palato-tubal muscles.

Should the tonsils from hypertrophy constitute a cause of pharyngitis, they should be removed. The objections sometimes urged against tonsillotomy are chimerical and entirely without foundation in fact. Meanwhile the pharynx should be treated with astringent sprays.

In atrophic or dry catarrh of the pharynx "deafness is nearly always present." For this condition the author advises irrigation of the nares with a warm alkaline lotion. This to be repeated two or three times a day, and the application twice a week of a solution of iodoform in ether, ʒj–℥j. "A small portion of iodoform wool should be introduced into each nostril night and morning, after irrigation." He also recommends a product of petroleum, *Adepsine oil*, as a good vehicle for the application of such volatile or essential oils as may be required.

In cases of deafness complicated by hypertrophy of the pharyngeal tonsil, "evulsion of the mass is the only measure in which confidence can be placed." "No evil consequences result from this operation, and with the completion of cicatrization all trace of the disease is obliterated." The subject of "Post-nasal" vegetations is well presented, but nothing new is advanced, which may also be said of the last section of the book on nasal stenosis and the operations for its relief.

We have thus tried to give at some length the views most likely to excite comment and impart practical information.

Taken as a whole, Dr. Woake's production possesses the great merit of originality, and his views, although not always capable of ready acceptance, will command respect from their sincerity and from the evident labor with which they have been evolved.

ALL THE YEAR ROUND IN THE RECESSES OF THE ROCKY MOUNTAINS. DENVER, COLORADO, 1885.

This is an attractive little *brochure* in regard to some of the resorts of Colorado, with a number of handsome illustrations, taken from photographs of the magnificent scenery and various points of interest. It is true that the writer's language is often of quite an exuberant character; but this is no doubt to be attributed, to a considerable extent, to the bracing nature of the atmosphere in which he resides.

In the third of his Crovmian lectures, on "The Hygienic and Climatic Treatment of Phthisis," which were delivered last spring at the Royal College of Surgeons, Dr. Hermann Weber thus speaks of the advantages of the Andes and Rocky mountains for consumptive patients:

More important to us in the treatment of phthisis are the health resorts of America. In the Peruvian Andes and the Rocky Mountains of the United States they possess indeed an endless variety of mountain climates. Near the equator, elevations of 6,000 and 8,000 feet have winter temperatures similar to our summer temperatures, and we must go still higher to find localities suitable to the treatment of phthisis. But at greater distances from the equator we come, at elevations of about 6,000 or 7,000 feet, to climates somewhat similar to those in the Alps at about 5,000 to 6,000 feet. In the neighborhood of Jauja and Huancayo, at elevations varying from 8,500 to 10,500 feet, several of my patients have recovered from rather advanced affections of phthisis, after I had learned the character of these climates, and had been encouraged in sending patients there by my late friend, Dr. Archibald Smith, of Lima, whose papers on these subjects are well known to you. How different, however, these climates are from the Swiss Alps you may see from the following statement of Archibald Smith:—"At Huancayo, 12° south latitude, and 75° 12′ west longitude, the annual range of temperature in the shade may be taken as ranging from 8° or 9° to 14° R.; while at the cooler town of Jauja, with from 10,000 to 15,000 inhabitants, the range during one whole year has been observed not to exceed from 8° to 12° R., or from 50° to 59° or 60° F., with the sky always clear and sunny, and an atmosphere pure and bracing, which invites to outdoor exercise and enjoyment. From no other localities have I seen such good results as from Jauja; but also from Santa Fe de Bogota (about 10,000 feet), Quito (about 10,000 feet), La Paz (12,000 feet), and Cuzco (11,250 feet), I have occasionally received good reports. Arequipa, in Peru, 16° south latitude, has lately been recommended by Dr. Dixon Hunter, with an equable temperature, averaging about 65° summer and winter within the house and outside in the shade during the day. I have no doubt that this climate is infinitely better than many others, especially the hotter regions along the seashore, and that consumption can be cured there; but it is somewhat too warm.

The Rocky Mountains in the United States of America have only been used as health resorts in phthisis, so far as I know, during the last fifteen or sixteen years, and they seem to have met likewise at first with much opposition; at all events, during the last ten years the advice I have given to several American consumptive patients to settle at Denver or other points in Colorado has been rather severely criticised by New York and Philadelphia doctors, especially in two cases of hæmoptic tendency, and yet these patients did well when they afterwards caried out the advice. Manitou Springs (6,315 feet), Colorado Springs (5,775 feet), and Denver (about 5,000 feet), are the best known localities, and have been repeatedly described by Drs. Denison and Solly; but numerous other resorts of the future are mentioned in Dr. Denison's instructive work on "The Rocky Mountain Health Resorts." Dr. Frankland has quite lately mentioned to me in this territory a locality which is likely to become an important health resort—Yellowstone National Park—accessible by the Northern Pacific Railway. It is situated on the eastern slopes of the Rocky Mountains, between 44° and 45° N. lat. "The park abounds with magnificent geysers and boiling springs on a most gigantic scale, and there are plenty of mineral waters. The boiling water and steam might be made available for warming hotels, but there is also an abundance of wood fuel. There is so much room in Yellowstone that there need be no overcrowding, as at Davos."

In an article in the *Popular Science Monthly* on "A Great Winter Sanitarium for the American Continent" Prof. Frankland thus speaks of the Yellowstone Park in this connection:

From my own observations, and from inquiries made on the spot, I am of opinion that the Yellowstone National Park possesses, in a high degree, all these essential conditions. In elevation above the sea it surpasses Davos; the great plateau of the park is between 7,000 and 8,000 feet above sea-level, while it is stated that not one of the narrow valleys dips below 6,000 feet. The mountain ranges, partly surrounding and partly within the park, rise to heights of from 10,000 to 12,000 feet. I should anticipate, therefore, that all the advantages which, as a winter resort for invalids, Davos possesses from its elevated position, would be enjoyed even in a greater degree in the Yellowstone Park. The period of permanent snow is longer, so that invalids could remain there probably until the end of April, whereas the melting of the snow generally compels them to leave Davos early in March, when the climate of the valleys is peculiarly unfavorable for chest complaints. It is to be expected, from its greater elevation, that a still clearer sky and a larger proportion of sunny days would be experienced in the Yellowstone Park, while the wholesomeness of the air would be still more marked, owing to its comparatively greater freedom from zymotic matter.

MISCELLANEOUS.

Quam Pœne Furvæ Regna Proserpinæ.—A young man with a gun, at Sonora, St. Mary's, was testing his marksmanship by firing at a cow. Miss Ella Hewitt, passing on the highway at the time, felt a sudden crashing in her mouth. The bullet had flown wide out of its mark and passed between

Miss Hewitt's slightly parted lips, cutting both slightly and erasing the enamel of her two upper front teeth. Miss Hewitt thus literally escapes "by the skin of her teeth," and, saving fright and swollen lips, is none the worse for her narrow escape, a narrower than which can hardly be imagined.—*Pictou* (*Nova Scotia*) *News.*

CÆSARIAN SECTION BY AN OX.—Dr. Joseph Z. Scott, of Scandia, Kansas, reports the following case to the *Medical Age:* Mrs. Piskulla, æt. 34, the mother of seven children and near full term in her eighth pregnancy, on November 16 was gored by an infuriated ox. The horn of the beast entered at the anterior superior spinous process of the ilium, and made a rent extending to the umbilicus, and involving both the abdominal parietes and the walls of the uterus. The child was extruded through the wound in half an hour after the occurrence of the accident. When I arrived on the scene, I found the child fully delivered, but remaining attached to the cord, which I ligated and severed. There being no dilatation of either the os uteri or the vagina, I delivered the placenta through the rent and applied a bandage. The patient was almost lifeless from hemorrhage and shock, and I placed her on morphine and whiskey. On the following day she was still alive, and Dr. Means was called in consultation at 9:30 A. M. The small intestines escaped from the wound on the removal of the bandage, and were returned with much difficulty. The wound was now closed with interrupted sutures, a carbolized compress was applied, and the morphine and whiskey continued internally. At 5 P. M. of the same day I found the pulse 130 and respiration 25 per minute. The abdomen was greatly distended, and the vital powers were fast becoming exhausted. On the following morning I found, on my visit, that the woman had expired at ten o'clock of the previous night.

Shakespeare speaks of Macbeth as having been torn from his mother's womb by a wild boar, but probably the statement must be charged to poetic license. I believe the case I have above reported to be the only authentic case of Cæsarian section performed by a beast, on record. It may be interesting to know that the child suffered little or nothing from the violent and unusual method of its delivery, and is alive to-day, a vigorous and thriving boy.

AN UNEXPECTED TRANSFORMATION.—A celebrated Parisian belle, says the *Popular Science News*, who had acquired the habit of whitewashing herself, so to speak, from the soles of her feet to the roots of her hair with chemically prepared cosmetics, one day took a medicated bath; and, on emerging from it, she was horrified to find herself as black as an Ethiopian. The transformation was complete; not a vestige of the "supreme Caucasian race" was left. Her physician was sent for in alarm and haste. On his arrival he laughed immoderately, and said: "Madame, you are not ill; you are a chemical product. You are no longer a woman, but a *sulphide.* It is not now a question of medicinal treatment, but of simple chemical reaction. I shall subject you to a bath of sulphuric acid diluted with water. The acid will have the honor of combining with you; it will take up the sulphur, the metal will produce a *sulphate*, and we shall find as a *precipitate* a very pretty woman." The good-natured physician went through with his reaction, and the belle was restored to membership with the white race.—*Boston Medical and Surgical Journal.*

AN IMPORTANT TEXAS WORK.—Dr. Geo. Cupples, of San Antonio, as chairman of a special committee on surgery, appointed by the State Medical

Association to make a report of "all surgical operations performed in Texas," is now engaged in collecting detailed reports from the surgeons all over the State, and for that purpose will be pleased to forward to any whose names have been omitted, the necessary blanks and circulars of instruction. We are requested to say such reports should contain full details, such as "number of children in gynæcological cases; chemical composition, and number of calculi lithotomy cases, subsequent health history, etc." This work was begun several years ago, by Dr. C., under the auspices of the State Association, and up to December 31, 1877, 1,837 cases had been collected and recorded. These were comprised in thirteen classes, and his report, as far as completed, shows the ratio of recoveries and deaths for each operation, and class of operation, and a general summary, giving the rates of recovery and death in major and minor operations, and in the sum total of operations; the number of cases of secondary hemorrhage, of erysipelas, of gangrene, of pyæmia, and of septicæmia, and, finally, the accidents resulting from the use of anæsthetics. Each one of the surgeons who have furnished reports, seventy in number, has been duly credited with each of his operations. The committee will complete the work, so well begun, and to that end surgeons are urged to communicate with the chairman. This will be an exceedingly valuable and interesting work, and, when finished, we expect to see Texas surgery show up about as good results as that of any other State or country. It will set a praiseworthy example to other States which, if followed, must result in a collection of statistics of inestimable value. This is doing for civil surgery what the collective investigation of disease is doing for medicine, and is just what the officers of the Bureau of the Surgeon-General of the U. S. Army have done for military surgery in the magnificent Medical and Surgical History of the War between the States.—*Daniel's Texas Medical Journal.*

CONSERVATIVE OVARIOTOMY.—Professor Schatz, of Rostock, has described in the *Centralblatt fur Gynakologie,* June 6, a highly interesting case of pregnancy following double ovariotomy performed after a plan recently advocated by Schroder. On February 20, 1880, Dr. Schatz removed from a girl aged 20 a large cystic tumor of the left ovary, including the outer third of the Fallopian tube, and all the ovarian tissue. The right ovary was distinctly enlarged and cystic; it was ligatured by means of three silk threads passed between it and the broad ligament, and cut away in such a manner as to leave a piece of ovarian tissue, hardly two millimetres broad, on the proximal side of the ligature. The right tube remained intact. An abscess formed, during recovery, in the track of a suture in the abdominal wound. On March 21, when the period was due, severe pain was felt on the right side of the hypogastrium and right thigh, with vomiting and fever. The symptoms recurred on April 8 and May 8. No deposit could be detected in the pelvis. The first "show" appeared on May 9; it lasted three days, and was pale and scanty. It recurred on May 31. In the interval there were attacks of pain in the left groin. On June 11, a swelling of the size of a plum was detected behind and to the left of the uterus, which was strongly anteflexed. On June 28, severe sacral pain set in; it radiated to the left inguinal region, and disappeared at period, which was copious, and lasted for six days. On July 15, the uterus was found to be small and retroverted. The catamenia thenceforward appeared regularly till the patient's marriage in April, 1884. She became pregnant in September, and was delivered on May 12 of this year.—*British Medical Journal.*

THE EFFECTS OF PROHIBITION IN IOWA have been somewhat modified by a Supreme Court decision, which declares that a man has a right to diagnose his own case and write his own prescriptions. It is needless to say that under this ruling the drug stores are flourishing.—*Philadelphia Ledger.*

PROPHYLAXIS EXTRAORDINARY.—An accomplished Bridgeport lady who recently made some extra-nice Charlotte Russe did not discover, until it had been eaten with great approval by her discriminating friends, that instead of sherry wine she had used a bottle of "cough mixture" in compounding the confection. There has not been a cough or sore throat in that vicinity since. *Bridgeport* (*Conn.*) *Standard.*

A CASE OF MATERNAL IMPRESSION.—A remarkable case of maternal impression is reported by the newspapers from Atlanta, Georgia. A number of months ago a man name Rose shot his wife in the head, completely destroying the right eye. In the same house was living his cousin, a young woman who was pregnant at the time, and when her child was born it was found that there was no right eye, but instead a hole, which is said to have been a perfect reproduction of the wound which killed Mrs. Rose. The mother herself died in childbirth.

NATIVE SURGERY IN CAIRO.—I lately had the advantage of seeing a native professor of surgery operate upon a man, aged twenty-eight, with elephantiasis of scrotum reaching below his knees. The patient came from Damietta, the most fruitful field for these cases, and he thought the tumor had been four years in growing; but the operator said it was more, probably ten years. He made a central and two lateral and transverse incisions, and found the testicles without a second's hesitation. The left was castrated after a large hæmatocele had been turned out; the right was complicated by a hydrocele, and was carefully preserved. No means were taken to prevent hemorrhage before the operation, but everything was done with great celerity and promptness. Arteries and veins were ligatured, and silk sutures and a drainage-tube were employed. The weight of the tumor was thirty-one pounds, and to this about twenty pounds must be added for the escaped liquids. A student sat on the operating table at the head of the patient, fanning him while he was under chloroform; and all seemed much interested in the operation, especially a black eunuch who was visiting a friend in the hospital and had strayed into the theatre. Fauzi Bey told me this was his twentieth operation for elephantiasis of scrotum, while his junior colleague, Duruy Bey, has done ten. When the patient was safely put to bed, it was interesting to see the operator administering soup to him with his own hand and performing other nursing services for him, which have now ended in his recovery. The brother of this patient, aged thirty-two, had been operated on twelve years ago for a similar tumor with urinary fistula. The result is a great success; the scar is barely visible, and he is the happy father of children. There is another patient now in hospital with a smaller scrotal tumor, complicated as most of them are with a uriny fistula of ten years' duration.—*Egyptian Correspondence of the Lancet.*

DR HOLMES TO THE BLIND.—The following dedication has been written by Dr. Oliver Wendell Holmes for a good-sized volume of selections from his poetical works, which is soon to be issued by the Howe Memorial Press of the Perkins Institution and Massachusetts School for the Blind, in Boston:

> Dear Friends, left darkling in the long eclipse
> That veils the noonday—you whose finger-tips
> A meaning in these ridgy leaves can find
> Where ours go stumbling, senseless, helpless, blind—
> This wreath of verse how dare I offer you
> To whom the garden's choicest gifts are due?
> The hues of all its glowing beds are ours—
> Shall you not claim its sweetest smelling flowers?
> Nay, those I have, I bring you; at their birth
> Life's cheerful sunshine warmed the graceful earth;
> If my rash boyhood dropped some idle seeds,
> And here and there you light on saucy weeds
> Among the fairest growths, remember still
> Song comes of grace and not of human will;
> We get a jarring note when most we try,
> Then strike the chord we know not how or why,
> Our stately verse with too aspiring art
> Oft overshoots and fails to reach the heart,
> While the rude rhyme one human throb endears
> Turns grief to smiles and softens mirth to tears.
> Kindest of critics, ye whose fingers read,
> From Nature's lesson learn the poet's creed;
> The queenly flaunts in robes of flame,
> The wayside seedling scarce a tint might claim,
> Yet may the lowliest leaflets that unfold
> A dewdrop fresh from heaven's own chalice hold.

—*Kneass's Philadelphia Magazine for the Blind.*

THE THRIFTY DRUGGIST.—The Washington *National Republican* is responsible for the following: A druggist of East Washington has inaugurated a system of advertising that is proving as popular among the small boys as it is novel. Some two weeks ago a small boy entered the store with about a yard of peach kernels strung on a thread, and offered them for sale. The kernels were of no use to the druggist, but he gave the boy a cent for them, and hanging them in an empty show-window, forgot the matter. In a day or two yards upon yards of the kernels were brought in, the boys having seen the first ones hanging in view of the street. It occurred to the druggist that it was a good way of getting notoriety among the young America, and he made a standing offer of one cent per yard for all kernels brought to the store. The news flew, and every boy within two miles set to work collecting and cracking peach stones, until now about 200 yards have been brought in, and the once empty show-window is fully decorated with them. Twenty to thirty yards is about the amount now received. The boys work from morning till night, and crack their fingers nearly as often as they do the peach stones. This has given rise to a source of profit of more importance than the advertising, as the sore fingers that need the druggist's care is extremely remcnerative. The boys come with two cents' worth of peach kernels to sell, and fifty cents' worth of sore fingers to be bound up. This is a net gain of forty-eight cents for the druggist, who is well satisfied with the bargain. But the two cents is available for taffy, and "pa" pays the druggist's bill.

MEDICAL NEWS.

AMERICAN ACADEMY OF MEDICINE.—The ninth annual meeting of the American Academy of Medicine was held October 28 and 29 at the rooms of the New York Academy of Medicine, No. 12 West Thirty-first Street, New York. Dr. Albert L. Gihon, Medical Director of the United States Navy, President of the Academy, called the meeting to order, and the opening prayer was offered by the Rev. Dr. Henry J. Van Dyke. Dr. S. M. Nelson, of Cambridge; J. H. W. Chestnut, Philadelphia; Rufus W. Bishop, Chicago; E. E. Marriot, Springfield, Mass.; G. N. Acker, Washington; H. V. Logan, Scranton; H. W. Elmer, Bridgeton; E. W. Cushing, Boston; J. S. Wright, Brooklyn; W. Osgood, Yarmouth; C. A. Packard, Bath, Me.; M. K. Oaks, Auburn, Me.; A. Mitchell, Brunswick, Me.; D. A. Robinson, Bangor; C. A. Ring, Portland; J. A. Spaulding, Portland; G. W. Marshal, Milford, Del.; W. A. Hugie, Charleston; J. B. Shapely, M. H. Post, A. E. Briggs, and J. S. Alleymen, of St. Louis; and N. S. Davis, Jr., Chicago, were elected Fellows of the Academy.

Dr. Robert Lowry Sibbet, of Carlisle, Penn., read a paper on the "Study of Medicine as a Means of Education." Dr. Charles McIntire, Jr., of Easton Penn., a paper on "Medical Supervision in Student Life, and Dr. Henry O. Marcy, of Boston, one on "Western North Carolina as a Health Resort."

At the evening session of the first day the President delivered an address on "What is Medicine?" after which the annual collation took place.

On the second day resolutions were passed that a committee should be appointed to report at the next meeting as to the best preliminary education for young men who wished to enter upon the study of Medicine, and also as to the minimum which Medical schools should exact. Drs. Henry H. Smith and S. Wier Mitchell, of Philadelphia, were elected honorary members of the academy. A resolution was passed that a committee of two be appointed to report annually on the requirements of the preliminary examinations in the Medical Colleges of the United States and Canada.

A paper on "Medical Evidence," by Dr. T. J. Turner, Medical Director in the United States Navy, was read. Other papers were: "A Report on Laws Regulating the Practice of Medicine in the United States and Canada," by Drs. R. J. Dunglison, of Philadelphia, and Henry O. Marcy of Boston; "Health Officers, Ancient and Modern," by Dr. Benjamin Lee, Secretary of the State Board of Health of Pennsylvania; "Micro-organisms and their diseases," by Dr. Samuel N. Nelson of Cambridge; "Observations on the Relation of Bacteria to Certain Puerperal Inflammations," by Dr. Ernest W. Cushing of Boston; "Medical Licenses and Medical Honors," by Dr. Edward Jackson, of Philadelphia; "The Physician and His Patient," by Dr. J. D. Kelly, of Utica, and "Sketches of Some of the Original Members of the Delaware State Medical Society," by Dr. Lewis P. Bush, of Wilmington.

Drs. G. D. Bruce, of Pittsburg, and Joseph T. Johnson, of Washington, were added to the council. The following officers were elected for the ensuing year: President—Dr. Stansbury Sutton, of Pittsburg; Vice-Presidents—Drs. Lewis P. Bush, of Delaware; S. J. Jones, of Illinois; R. L. Sibbet, of Pennsylvania, and H. F. Gerrish, of Maine; Secretary and Treasurer—Dr. Richard J. Dunglison, of Philadelphia, Assistant Secretary—Dr. Charles McIntire, Jr., of Easton. The academy adjourned to meet in Pittsburg on the third Tuesday of next September.

NURSES GRADUATED.—The ninth annual commencement of the training school for nurses of the Charity and Maternity Hospitals, Blackwell's Island, was held October 29 under the auspices of the Commissioners of Charities and Correction. Diplomas were presented to fourteen graduates by Isaac H. Bailey, Esq., and addresses were made by the Rev. Dr. Edward McGlynn, ex-Mayor Wm. H. Wickham, Dr. F. N. Otis, and Dr. L. L. Seaman.

NEW YORK COUNTY MEDICAL ASSOCIATION.—As the last meeting of this society, held October 19, Dr. Frederic S. Dennis read a paper on the treatment of fracture of the patella by wiring together the fragments, with illustrative cases; Dr. H. M. Briggs gave a demonstration of cultures of the micro-organisms of ostromgelitis; Dr. F. Forné, staff-surgeon of the French navy, presented a new instrument, a true *serre-nœud* for tightening a knot continuously, and the President, D. C. A. Seale, made some remarks, with the exhibition of a specimen under the microscope, upon some nummulitis from the foundation stone of Cleopatra's needle in Central Park.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.—As the annual meeting of this Society, held October 26, the following officers were elected: President, Dr. Daniel Lewis; Vice-President, Dr. Lawrence Johnson; Secretary, Dr. W. M. Carpenter; Assistant Secretary, Dr. C. H. Avery; Treasurer, Dr. O. B. Douglas.

A FREE CIRCULATING LIBRARY FOR THE BLIND has been opened at 296 Ninth Avenue, New York. It is the first enterprise of the kind ever undertaken, and voluntary contributions are entirely relied upon for its support.

BRITISH GYNÆCOLOGICAL SOCIETY.—Drs. T. Gaillard Thomas, Thomas Addis Emmet, and Fordyce Barker, of New York, have been elected Honorary Fellows of this society.

NEW YORK OBSTETRICAL SOCIETY.—The annual meeting of this society was held October 20, when the following officers were elected for the ensuing year: President, Dr. P. F. Mundé; First Vice-President, Dr. H. T. Hanks; Second Vice-President, Dr. L. A. Rodenstein; Recording Secretary, Dr. H. C. Coe; Corresponding Secretary, Dr. E. Noeggerath; Treasurer, Dr. E. L. Partridge; Pathologist, Dr. J. B. Hunter.

NEW YORK ACADEMY OF MEDICINE.—A section of Opthalmology and Otology was organized October 19, with Dr. C. R. Agnew as President, and Dr. J. A. Andrews as Secretary. The Surgical Section has recently been re-organized with Dr. Stephen Smith as President, and Dr. A. B. Judson as Secretary. The section of Practice of Medicine, of which Dr. A. L. Loomis is President, held its first meeting since the summer vacation, October 20, when a paper was read by Dr. Lawrence Johnson, on "The Choice of Remedies." The topic for general discussion, in which Drs. Loomis, Vanderpoel and others took part, was, "Is Typhoid Fever ever of Spontaneous Origin?"

THE ERNST KRACKOWIZER PRIZE FUND.—The sum of $1,155 has been presented to the New York Academy of Medicine as a memorial prize fund by friends of the late Dr. Ernst Krackowizer, of this city, the accumulated interest of which is to be devoted every third year to a prize for the best medical essay or book published in America during the preceding three years, or for the best elucidation of some scientific problem submitted for competitive investigation.

YELLOW FEVER INOCULATIONS.—Dr. Domingos Freire has at length aroused opposition to his theory of yellow fever prevention by inoculation. In a session of the Imperial Academy of Medicine on September 14, at Rio de Janeiro, Dr. Araujo Goes claims to have shown Dr. Freire microscopic preparations of earth taken from his yard, on the Praia de Flamengo, in which was the bacillus discovered by Dr. Freire. Dr. Goes further states that Dr. Freire, having failed to discover the sporuliferous cells (*cellulas sporadulas*) in the preparation, he sought for these and in a short time showed them to his colleague. He kept the matter quiet with the intention of not discrediting Dr. Freire, but he now regretted his action. On the 17th the emperor is said to have examined microscopic preparations made by Dr. Vieira de Mello, who claims to have discovered a bacillus in the excretions of patients suffering from acute and chronic malaria, exactly similar to that discovered by Dr. Freire in the excretions of yellow fever patients.—*The Sanitary News*, October 3, 1885.

PASTEUR'S SUCCESS WITH HYDROPHOBIA INOCULATIONS.—The *New York Herald*, of October 29, contains a cable dispatch from Paris, giving an account of a meeting of the Academy of Sciences, at which Pasteur described his process of curing hydrophobia by means of virus obtained from successive inoculations of a number of rabbits, and related the following case:

A boy, twelve years of age, named Meister, who had been bitten fourteen times, came from Alsace with his mother to see Dr. Pasteur. The autopsy of the dog which had bitten the boy left no doubt as to its having suffered from hydrophobia. Dr. Pasteur took the celebrated Dr. Vulpian and a professor of the School of Medicine to see the boy Meister. These two doctors came to the conclusion that the boy was doomed to a painful death and might be experimented upon. In thirteen days inoculations were made upon Meister with pieces of spinal marrow containing virus of constantly increasing strength, the last being from the spine of a rabbit that died only the day before. Now one-hundred days have passed since Meister underwent the last inoculation. The treatment has been thoroughly successful and the boy is in perfect health. He had been bitten sixty hours, and had traveled from Alsace to Paris before the first inoculation was performed.

The dispatch then went on to say:

Dr. Pasteur said that it was now necessary to provide an establishment where rabbits might always be kept inoculated with the disease. In this way a constant supply of spinal tissues of old and recent inoculation would always be ready. Before the sitting was adjourned Dr. Pasteur received an enthusiastic ovation from both the Academy itself and the public who were present.

One of the leading doctors present remarked that the question was whether a man cured of hydrophobia could suffer from a second bite, in other words, whether the inoculation of virus was a guarantee against hydrophobia. In answer Dr. Pasteur states that the malady is transmissible only by bite. If, therefore, by a general compulsory inoculation of dogs for several generations dogs had been made incapable of hydrophobia, the malady would have disappeared, and there would be no occasion to ask whether inoculation had a permanent effect or not. (The question of *cure* must still, however, be regarded as *sub judice.*—ED.)

THE ARMY MEDICAL CORPS.—A board is now in session in this city for the examination of candidates for appointments in the service.

THE SMALL-POX IN MONTREAL.—During the first eighteen days of October, the number of deaths from small-pox in Montreal and the adjoining municipalities amounted to 958. In the week ending October 31 there were 275 deaths from the disease in the city. October 20 the following resolution was adopted by the local board of health:

Resolved, That to ensure the best results for the measures now being employed for the restoration of the city's health it is the opinion of the board that all public places of amusement on the island of Montreal, including theatres, roller skating rinks, etc., and all places of public worship, such as churches, Sunday-schools, and prayer-meetings, should be peremptorily closed for a period of one month, and the congregating of people in public squares and streets prohibited, and that the Central Board of Health be required to frame regulations at the next meeting to carry out this view. The ambulance corps has frequently met with determined resistance in its efforts to move small-pox patients to hospitals.

The disease has appeared in a number of cities and towns in the United States and Canada, but no serious epidemic has, as yet, occurred in any of them. A dispatch from Washington, dated October 17, states that the Surgeon-General of the Marine Hospital Service has received a letter from Surgeon H. W. Austin, descriptive of a visit made by him to Montreal, and of the system of inspection on the Canadian frontier. He says he is satisfied that the inspection service is well and faithfully conducted, and that every practicable precaution has been taken to guard against the introduction of small-pox into the United States. The Canadian authorities, he says, are also doing all in their power to check the further progress of the epidemic.

QUARANTINE IN TEXAS.—In response to a letter from Secretary Bayard, transmitting a complaint of the Mexican authorities against the hardships entailed upon Mexican citizens by reason of the rigid quarantine maintained by the State of Texas this summer along her Rio Grande frontier, Governor Ireland has written one in which he admits, as stated by Mr. Bayard, that Mexican citizens were ignorant of these rigid quarantine rules until they reached the border, but says it is no reason why Texas should run the risk of being cursed by a yellow fever epidemic. He concludes the letter in the following language: "With all due respect to the Mexican Government, I desire to say that Texas must be her own judge of the time and place for establishing quarantine for the protection of her people."

PRESENTATION TO MR. T. HOLMES.—The divisional surgeons of the metropolitan police on Wednesday last presented Mr. T. Holmes, at his residence, 18 Great Cumberland-place, with a silver salver and coffee service, on his retirement from the post of chief surgeon to the Metropolitan police, as a mark of their esteem and of their appreciation of his courtesy, kindness, and loyalty to them during his twenty years of office. The presentation was made by Mr. Bond, treasurer to the fund, accompanied by Mr. Simmons, the secretary, and a deputation of between thirty and forty divisional surgeons. Mr. Holmes, in a speech thanking them for their handsome present, dwelt on the gratification it afforded him to receive such a mark of their regard, and assured them that no body of men could be better attended medically than are the men of the metropolitan police, and that he always found the divisional surgeons did their duty well.—*Lancet, Oct.* 10.

NOTICE TO OCULISTS AND PUBLISHERS OF OPHTHALMOLOGICAL WORKS.—*Mr. Editor:* Having taken charge of reporting for the "Revue Générale d'Ophthalmologie," edited by Dr. E. Meyer, of Paris, and Dr. Dor, of Lyons, on the progress of ophthalmology in our country, I beg leave to request all authors and publishers of ophthalmic works and papers to send me copies or reprints of their respective publications, in order to enable me to give the most complete review of the current ophthalmic literature of our country in a periodical of the largest circulation among our profession. (Medical papers please copy).

DR. M. LANDESBERG.

40 W. 34th Street, New York, October 3, 1885.

A PRIZE FOR A NEW INSTRUMENT FOR THE IMPROVEMENT OF HEARING.—Baron Leon de Lenval, of Nice, has offered a prize of 3,000f. for the best readily portable instrument, constructed according to the principle of the microphone, for improvement of hearing in cases of partial deafness. The award committee consists of Professor Hagenbach-Bischof, Chairman (Basle), Dr. Benni (Warsaw), Professor Burckhardt-Merian (Basle), Dr. Gellé (Paris), and Professor Adam Politzer (Vienna), to any one of whom instruments intended for competition may be sent before December 31, 1887. The awarding of the prize will take place at the Fourth International Congress for Otology, to be held at Brussels in September, 1888.

RESERVOIRS OF DEADLY GASES.—*Wilkesbarre,* Penn., Oct. 19.—It has become generally known that in various portions of this city explosive and inflammable gas from the coal mines under the city has for a long time made its way up through the creviced roofs of the mines into the cellars of buildings above them, necessitating the constant keeping of cellar windows open in order that the gases may escape, as to carry a light into a close apartment filled with the gases would result in a terrific explosion and the destruction of property and life. One of these buildings is the Hancock Public School building, where 600 children are in daily attendance. The danger is considered so great that the public prints are demanding that the school authorities at once adopt measures to remove it. The gas is inodorous, thus adding to the danger of its presence.

MATERIA MEDICA COLLECTION FOR STUDENTS OF PHARMACY AND MEDICINE. Messrs. Parke, Davis & Co., of Detroit, have prepared a case containing specimens of all crude drugs of vegetable origin recognized in the U. S. Pharmacopœia, as well as many not so recognized that are in common use—in all 288 specimens. This collection is offered complete at the moderate price of $10, provided that in response to the cirular which they have issued they receive a sufficient number of orders to enable them to supply the specimens without actual loss to themselves. The special advantages of such a collection as this are indicated in the following quotation from this circular: "The student can familiarize himself, practically, with the properties of drugs only as he has the opportunity to examine and handle specimens himself. The descriptions of text books, even when aided by elaborate engravings, appeal only to the imagination, and the impression received from reading is consequently of necessity imperfect—often misleading, and always evanescent. It is not enough, even, that the student have access to cabinet collections, although these render excellent educational service. It is only by having the specimen actually in hand that with the aid of lens and dissecting needle he can intelligently follow the descriptions of his manual. Specimens of many of the common drugs are of course easily procured at any drug store for such examinations, but there are many which are not thus accessible; and it is, moreover important that the specimens shall be all of unqestionable authenticity. The present collection furnishes this desideratum. It includes all the crude drugs of vegetable origin that are of any importance in the materia medica, and thus furnishes the indispensable supplement to such text books as Sayre's "Conspectus of Organic Materia Medica," or Maisch's "Manual." Each specimen is put up in a little box, with a label bearing simply a number, an index or key accompanying the case. The index being alphabetically arranged, enables the student to find any required specimen without difficulty, while the absence of names on the labels enables him to practice himself in the identification of drugs.

GUARDING AGAINST SMALL-POX IN CHICAGO.—Chicago, Oct. 29.—In view of the fear of a small-pox epidemic this winter, the city health authorities are taking extraordinary precautions against its introduction and spread in this city. There is at present no small-pox here. Concerning the matter, the city Health Commissioner said to-day: "By Nov. 15 we shall have vaccinated all the pupils of the public, private, and parochial schools, which will make 140,000 children of school age absolutely small-pox proof, and that means the greatest of the danger averted. After that will begin the house-to-house visits of my medical inspectors in the poorer and more crowded districts of the city, and that task will take all winter. Of course, the programme will be carried out in its simple shape only if we have no small-pox epidemic. I don't think we shall have that. Our vaccinating system is too complete and comprehensive."

NO PERMITS FOR CREMATION.—Dr. John T. Nagle, Deputy Register of Records of the Health Department of this city, on the 31st of October gave orders to the clerks having charge of the issuing of burial permits not to grant any permits for the removal of bodies from the city to the new Mount Olivet Crematory at Fresh Pond, Long Island, for cremation. The doctor based his order on the fact that the sanitary code does not provide for the cremation of human bodies, but only for their interment, and that cremation is against the provisions of the code.

KENTUCKY'S AGED PIONEER.—Louisville, Ky., Oct. 22.—Mr. Asa Emerson, Kentucky's aged pioneer, celebrated his 102d birthday to-day. He has been in good health until recently.

A PROLIFIC MOTHER.—In New Jersey, on the 30th of October, Mrs. Joseph Dunham (colored) died in giving birth to twins. This was the third time she had given birth to twins, and she had had twenty-three children, eight surviving her.

FLORIDA MEDICAL AND SURGICAL JOURNAL.—A new medical journal with this title has just been started at Jacksonville, Fla. It is to be devoted to the interests of medicine, surgery, and sanitation in the State of Florida, and the editors are, Drs. T. O. Summers, C. H. Mallett, and Neal Mitchell.

A NICE LITTLE FEE.—Keith of Edinburgh recently came to Boston to give an opinion on the case of a lady who had an obscure abdominal affection. He remained in consultation with the regular attendant about half an hour. confirmed the previous diagnosis in the case, and went off with a fee of $10,000.—*Northwestern Lancet.*

DR. ATLEE'S WILL.—The will of the late Dr. John L. Atlee bequeathes $1,000 to the Orphan's Asylum of Lancaster; $1,000 to the Bishop Bowman Church Home; and $1,000 to St. James Episcopal Church for the support of the rector. The remainder of the estate is given to the direct heirs, Dr. Walter F. Atlee receiving the surgical instruments of his distinguished father. The estate is valued at $250,000.—*Med. and Surg. Reporter.*

DEATH OF DR. H. A. SCHELL.—Dr. "Gus" Schell died at his residence in Gallatin, Tenn., Friday, Sept. 25, at 6 A.M. His death had been expected for several days, although he had only been confined to his bed for less than a week. His medical attendants attribute his death to brain trouble, which had been feared for nearly a year. His loss will be greatly felt in the community in which he lived. An honorable, upright, generous, and noble-hearted physician, universally esteemed and respected by all who knew him. He was the second son of the late Samuel F. and Mary Schell, and was born in Philadelphia in November, 1834, and came with his parents to Gallatin when very young. Receiving a liberal education at our schools, he became a pupil of Dr. James Franklin, a prominent physician of Gallatin, and afterwards graduated with honor at the Pennsylvania Medical School at Philadelphia. Subsequently he graduated at the Nashville Medical School. Commencing practice at Gallatin, he took a high position among his medical brethren and the people, and maintained it during life. His skill as a surgeon was pronounced. He was justly regarded as the peer of any in the State, and performed many difficult operations, which, elsewhere but in a country village, would have won him a national reputation. In 1861 he married Miss Elizabeth Baker, daughter of the late Z. W. Baker. He leaves a widow and four children. In 1862, during the civil war, he volunteered, and was appointed surgeon to Wheeler's brigade of cavalry, and commenced service at the bloody conflict at Murfreesboro, where he found ample opportunity for the exercise of his skill as a surgeon. He served to the close of the war, and, returning home, resumed the practice at Gallatin assiduously until his death.—*Southern Practitioner.*

DEATH OF PROF. SAMUEL G. ARMOR.—Professor Samuel G. Armor, Dean of the Faculty of the Long Island Hospital Medical College, who was born Jan. 29, 1818, in Washington County, Pennsylvania, died October 27, at his home in Brooklyn. Dr. Armor joined the Faculty of the Long Island College in 1866, as Professor of Therapeutics, Materia Medica, and General Pathology. The next year he succeeded Dr. Austin Flint, who had resigned, in the Professorship of Practice of Medicine and Clinical Medicine. He was a frequent contributor to medical literature, and built up a large practice in Brooklyn. Before moving to Brooklyn Dr. Armor had gained a reputation as a medical teacher through connection with Western medical colleges for nearly twenty years. He was a practitioner at Rockford, Ill., for three years, beginning in 1844, and was then engaged for a course of lectures at the Rush Medical College of Chicago. In 1848 he became Professor of Natural Sciences at Cleveland University. In 1853 he became Professor of Physiology and Pathology in the Ohio Medical College at Cincinnati. Three years afterward he was called to the Chair of Pathology and Clinical Medicine in the Missouri Medical College, his Alma Mater, at St. Louis. He remained there until 1861, when he went to Detroit as Professor of Institutes of Medicine and Materia Medica in the University of Michigan. It was from that post that he was invited to Brooklyn in 1866.

THE LATE PROF. RICHARD MCSHERRY.—A special meeting of the Medical and Chirurgical Faculty of Maryland was held in Baltimore, on the 10th of October, to take action in regard to the death of Professor McSherry. Appropriate addresses were made by the President, Dr. J. R. Quinan, and Drs. S. C. Chew, Christopher Johnson, W. C. Van Bibber, W. T. Howard, and T. A. Ashby, and the following resolutions were adopted:

> *Resolved.* That the Medical and Chirurgical Faculty of Maryland, assembled to take action in regard to the death of their late fellow-member and former President, Dr. Richard McSherry, are profoundly conscious of the loss sustained by themselves as a Faculty, by the medical profession, and by the whole community.
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> They would express their deep appreciation of those endowments and qualities of Dr. McSherry which made him a judicious and conscientious practitioner, a wise and able counsellor of his professional brethren, a valued and beloved friend.
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> While lamenting that he has been removed from the sphere of his faithful labors, they recognize the fact that the calm and peace of his closing hours were the fitting end of his well-spent and noble life.

THE GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY OF BALTIMORE, is the title of a new medical society which has lately been organized in Baltimore. Its membership is limited to twenty-five active and ten honorary fellows, and its meetings are to be held on the second Tuesday of each month. The following officers have been elected for the first year: President, Dr. G. W. Miltenberger; First Vice-President, Dr. H. P. C. Wilson; Second Vice-President, Dr. Thos. Opie; Secretary, Dr. W. E. Moseley; Treasurer, Dr. R. T. Wilson.

A NEW WORK ON DIPHTHERIA.—Messrs J. H. Chambers & Co., of St. Louis, announce as in press a "Treatise on Diphtheria, Historically and Practically Considered, Including Croup and Tracheotomy," by Dr. A. Sanné, of Paris, "Translated, Annotated, and the Surgical Anatomy Added, with a Full Page Colored Plate, and Thirty-six Illustrations," by Dr. Henry L. Gill, Professor of Operative and Clinical Surgery in Wooster University, Cleveland.

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EDITORIALS.

SURGICAL PRACTICE, PAST AND PRESENT, AT BELLEVUE HOSPITAL.—The report which Dr. Stephen Smith gave of the comparative results of operations at Bellevue Hospital, before the New York Academy of Medicine, on the evening of Oct. 15, and which is reprinted in the present issue of the JOURNAL, is a most gratifying showing. It is true that he does not present any statistics, but the improvements which have recently been made in surgical treatment are so vast that the glowing account which he gives of the revolution which they have wrought in the wards of Bellevue may be accepted with entire confidence. Indeed, on the occasion named, the correctness of his statements was abundantly confirmed by the testimony of competent observers like Drs. Post, Carpenter, and Wylie, who are personally familiar with all the facts of the case. A particularly striking proof of the progress that has been made there was afforded by Dr. Carpenter, one of the curators of Bellevue (who remarked that, as he listened to the reading of Dr. Smith's paper, the details of the history so graphically related passed before his mind like the scenes of a pleasant panorama), in the statement which he made of the results which he had noticed in the dead-house of the hospital. Whereas, he said, those grave internal lesions resulting from prolonged suppurative action, such as surgical kidney, were formerly frequently met with then, they were now practically unknown; so that, as far as he could remember, it was some five or six years since he had seen a single instance of such a condition.

Dr. Smith said very truly that there was probably no better place in which to test the progress of practical and operative surgery than the wards of Bellevue Hospital, an ancient institution which has within its walls and its immediate environments all the conditions that in modern times are regarded as unhealthful and unsanitary. For an account of these unfavorable conditions the reader is referred to the article itself. It is true, as the writer says, that the surgeons of Bellevue have always ranked among the best in this city; and yet, as he goes on to state, the practice of surgery there has, within the last few years, undergone so complete a revolution that one of the older surgeons would scarcely realize that he was in the same hospital where he had practiced a decade ago. "He would see with horror operations fearlessly performed that he had formerly regarded as without the pale of legitimate surgery. He would witness procedures in the after-treatment of operations which would seem to him to be fantastic and even ludicrous. His astonishment would be extreme on finding that the first week passed without fever, and that no change had been made in the dressing. But perhaps the most remarkable feature of modern practice would be the rapid convalescence and final complete recovery, without complication or exhaustion, of ordinary operations, which formerly gave so much trouble and anxiety."

Before the use of anæsthetics, the most important general principle governing the operator was celerity, in order to limit as much as possible the amount of pain. Now, however, "one thought and purpose occupies the mind of the surgeon, and that is recovery without suppuration. . . . Pus, as an outcome of surgical operations, is a thing of the past." And in this connection Dr. Smith makes the remarkable statement that on one occasion last winter a teacher in one of the medical colleges sent to the wards of Bellevue for a specimen of pus for exhibition to his class, but none was to be found in any of the four surgical divisions of the hospital, although there was at that time an unusually large number of wounds and operated cases under active treatment.

Formerly the results of the larger operations were extremely bad, and Dr. Smith says that "a resident surgeon once made the statement that a recovery after amputation of the thigh had not occurred in Bellevue Hospital 'since the time that the memory of man runneth not to the contrary.' Though this remark was not strictly true, it had a painful significance to the surgeons of that period." Now, however, he goes on to state, except for the unfavorable conditions incident to the injury, amputations are among the most successful operations at Bellevue. Death by suppuration and its results does not occur. "Perhaps," he says later on, "the most marked illustration of the great improvement in operative surgery in Bellevue may be found in the unvarying success which attends the treatment of simple fracture of the patella by wiring the fragments together." "This procedure does, indeed, embody the very spirit and genius of the surgery of to-day, viz.: Boldness to audacity in the conception of an operation, and conservatism the most absolute in the method and means employed in executing it. And yet this operation is now accepted as legitimate in Bellevue, ... and no operation, so inherently dangerous when performed according to old methods, has ever, proved more successful. It has now been performed in more than a score of cases without an unfavorable result." Apropos of this operation, it may be remarked that in his able paper on fracture of the patella, read at the meeting of the New York County Medical Association, October 19, Prof. Frederic S. Dumas, also a Bellevue surgeon, claimed that success in it depends wholly on the most careful attention to all the minutest details of antiseptic procedure.

Dr. Wylie stated before the Academy, that until three or four years ago ovariotomy was not performed at all at Bellevue, on account of the extremely unfavorable results attending it; but in his paper, as will be seen, Dr. Smith gives Dr. Wylie's statistics, which show that since November, 1883, he has performed laparotomy thirty times there, and that all the cases of ovarian cysts recovered.

The language with which Dr. Smith concludes his report is very significant, and needs but little comment: "In reviewing the surgical practice of Bellevue, it is not difficult to determine the essential feature of the present methods as compared with those of the past. Cleanliness is the one great object sought to be attained in all operations. Whatever may be the final conclusion of scientific students as to the cause of putrefaction in wounds, practically it is determined that the surgeon may, with the most absolute certainty, protect an ordinary open wound from suppuration. To effect this object he finds that he has simply to resort to those measures which are known to secure perfect cleanliness of the wound. The agents now relied upon and found efficient are: 1. Soap and water to external parts. 2. Carbolic solutions for the instruments. 3. Bichloride solutions to all surfaces and tissues. 4. Iodoform for external dressings. We may summarize the conditions regarded as essential to success as follows: A clean operator; clean assistants; a clean patient; clean instruments; clean dressings."

In a leading article, in its issue of October 17, the *Lancet* incidentally alludes to the almost entire abolition of suppuration which the use of the antiseptic system has brought about in the hospitals. "The students," it says, "who are beginning their education now, can form no conception of the significance of this change, which can only be considered second in importance to the introduction of anæsthesia. They cannot realize the pints of pus—often stinking pus—that used to flow, sometimes for weeks, from compound fractures, from stumps, abscesses, and wounds, twenty years since, at the expense of the patient's blood, and to the great risk of his chief glands and of his vital powers. The process was accompanied with high temperatures, and was most debilitating. All this has been altered, to the infinite advantage of the patient. Thus, not only does anticepticism save limbs, but it saves power, and blood, and glands from destruction."

In the discussion which followed the reading of Dr. Smith's paper, while the prevalent opinion appeared to be that the supposed advantages of antiseptics in surgical practice are in reality very largely, or perhaps wholly, due to the rigid cleanliness which the antiseptic system, when properly carried out, involves, all the speakers doubtless agreed with the author when, in his closing remarks, he said that he believed that those who are now ridiculing antiseptics are doing great mischief, and that the abandonment of the extreme precautions which are at present observed would lead to a return of many of the deplorable results which formerly attended hospital practice.

While it may be the fashion of the hour to decry many of the details of his system, there can be no doubt that to Lister belongs the supreme meed of honor for the almost miraculous change which has taken place in surgical treatment; for, as Dr. Wylie remarked on this occasion, we never knew what cleanliness was until Lister taught us. It will be appropriate here to quote a brief passage from the admirable address of Professor Janeway, on the progress of etiology, before the New York County Medical Association, which appears in the present issue of the JOURNAL.

"An immense advance has been achieved in our comprehension of the cause of many inflammations, abscesses, erysipelas, pyæmia, etc. Whilst the opinions were beginning to be molded in this regard and prior to any established connection between micro-organisms and these states, Lister (1867) by his efforts which had in view the prevention of the entrance of supposed disease—exciting germs, created a revolution in surgery. There are those here to-night who can recall the former frequency of these conditions, of unhealthy inflammation in hospital and private practice, as contrasted with the present. So great was this that it was supposed by some that Bellevue Hospital should be razed, and that its site was unfit for future hospital use. There are some who do not adopt Listerism in its full sense, but yet claim good results. He who was conversant with the past knows that the disbelievers, as a rule, exercise more care as regards cleanliness in all its senses than the most careful of our predecessors."

Dr. Smith did not in his paper allude directly to the important part which the improved plan of nursing now in vogue at Bellevue has unquestionably played in bringing about the revolution of which he speaks; though he no doubt had it in mind as constituting an essential element of the comprehensive system of cleanliness which is now so carefully carried out there and in other large hospitals. The introduction of trained nurses, as well as that of antiseptics, has marked a new era in hospital treatment, and no juster estimate of the value of the present system can be formed than that given in the conclusion of his report at the recent graduating exercises of the training school for nurses of Charity Hospital, on Blackwell's Island, by Dr. Seaman, Chief of Staff of that institution, who from his special experience must be acknowledged to be a competent judge.

"I am proud to say," he stated, "that among the nurses now may be found many ladies of culture and refinement, and the skill of the physician has been supplemented by the skill of the educated nurse. The care and sympathy received by the patients promoted their recovery, while the presence among them of the pupils of the school so improved the moral tone of the institution that the cells for punishment were no longer necessary, and were removed. The death-rate of the hospital has steadily diminished since the introduction of the training school, as shown by the statistics of the past ten years. It is now nearly sixty per cent. less than before the establishment of the school, and while other causes contributed to diminish the mortality, none has exercised so great an influence as the increased efficiency in nursing, due to the careful training of intelligent nurses."

THE FIRST ANNUAL MEETING OF THE FIFTH DISTRICT BRANCH OF THE NEW YORK STATE MEDICAL ASSOCIATION.—The first annual meeting of this organization, held at the Mansion House, Brooklyn, on the 13th of October, is, like the two special meetings for purely scientific purposes which it has had during the past year, to be set down as a very gratifying success. It is true that the elements conspired to greet the occasion with the stormiest day of the season; but though Fellows, especially those living at a distance, were no doubt deterred from attending by the inclemency of the weather, the number present was sufficient to attest the deep interest felt in the meeting, while the scientific proceedings were of such a character as to richly repay those who came for braving the storm.

Among the papers read was one by Professor Austin Flint on the causation and treatment of acute coryza, in which he argued the probability of the parasitic origin of this affection, and urged the desirability of having such researches made in regard to it by competent investigators as might lead to the establishment of the existence of a specific micro-organism, should there really be one as the essential factor in its etiology. While Dr. Flint educed a number of points affording some rational grounds for the correctness of this view, which are apparently strengthened by the action of certain local remedies which have been found to be of service in coryza, it must be said that other circumstances connected with the contraction of this complaint seem to militate somewhat strongly against the hypothesis advanced; and until the action of such a parasitic agent is more definitely demonstrated, it is scarcely to be accepted by the profession in general.

Another paper of much interest was that on the progress of electrolysis in surgery, by Dr. Newman, which is published in the present issue of the JOURNAL, and in which the new and successful application of this method of treatment in hernia and hemorrhoids by Dr. Craft of Cleveland, is now for the first time made known to the profession.

One very pleasant feature of the meeting was the presence of Prof. Wm. H. Pancoast, of Philadelphia, who came on by the invitation of the President, Dr. Hutchinson, and in his characteristically graphic and impressive manner delivered an address of great practical interest on certain points in surgical practice and surgical anatomy which were either original with himself, or which he had found by extensive personal experience to be of special value. Our readers will no doubt be much gratified to learn that Professor Pancoast has very kindly consented to write out his remarks on this occasion for their benefit, and they will probably be published in the January number.

Dr. Wm. McCollom, of Brooklyn, reported a unique case of symmetrically developed cirrhosis of both lungs, which was characterized during life by progressive dyspnœa, and of which the only physical sign was the existence of certain moist râles. Two cases of special interest were also reported by Dr. Govan, of Rockland County. One of them was an instance of poisoning by aniline oil, which gave rise to some discussion on the anæsthetic properties of this oil, and the probability of the latter being due to contamination with carbolic acid or other bi-products of the coal tar series. All these cases will also be published in full in the JOURNAL.

During the business meeting a recommendation from the Executive Committee was adopted, to the effect that a committee of three should be appointed to act with similar committees from each of the District Associations, at the annual meeting of the parent association in November, in formulating a general set of by-laws for all the five branches.

MEDICAL ENTERPRISE IN THE SOUTH.—Among many other indications of returning prosperity to the South is to be noticed the establishment of private infirmaries under the care of Southern physicians and surgeons. Dr. Hunter McGuire's Hospital for Women in Richmond is probably the most prosperous of these, it having in fact attained a degree of success most surprising. In Tennessee the two sons of the late Dr. Paul F. Eve have a surgical hospital under their care, and their friends are very glad to see that the talents and attainments of their distinguished father are being not unworthily reproduced in them. Students of the subject of heredity, who sometimes become disheartened to find that the human animal is less amenable to its laws than the brute creation, will find here a gratifying exception to the rule. In Georgia Dr. V. H. Talliaferro has in successful operation a private infirmary for the treatment of diseases of women. Dr. Talliaferro must find this a congenial field for his energy and talents, as his experience has been large and his success great in this department of medicine. More recently a surgical infirmary for males and females has been established in Atlanta by the well-known surgeon and writer, Dr. J. McF. Gaston, than whom no one stands higher in all sections of the country. In this connection reference may also be made to the deservedly renowned establishment of Dr. Battey, a description of which recently appeared in the *Atlanta Medical and Surgical Journal*, from which the following extracts are taken:

"This infirmary, located on an elevation on South street, overlooking the Etowah River, consists of seven neat cottages of five rooms each, with beautiful grounds surrounding them. The place presents quite an attractive appearance. The furniture is plain but neat. The bedsteads are brass with woven wire mattresses. Since January 1st of this year, Dr. Battey has averaged one ovariotomy each week. These tumors, after being removed, are preserved in arsenic, stuffed and carefully put away. In the collection we noticed twenty of very large size, the largest one weighing, when removed, fifty-six pounds. The success that followed the removal of these large tumors has been something wonderful—not one of the cases have died. The doctor attributes this success, in a great measure, to the antiseptic precautions that he observes with every case. . . . . . .

Dr. Battey is ably assisted in this work by his son, Dr. Henry H. Battey, Dr. George R. West, Mrs. Battey and his two students. Mrs. Battey has entire charge of the nursing and general management of the patients after the operations, and, in our opinion, it is to her good nursing and kind and gentle treatment, more than to the strict antiseptic precautions, that the great success of the operations is due."

To mention only one other, the Green Springs Sanitarium, under the charge of Dr. John S. Marshall, is especially adapted to the treatment of nervous diseases, including the opium and alchoholic habits; as well as chronic rheumatism, dyspepsia, and diseases of the skin.

Each of these institutions is congratulated upon the success already achieved, and, in order that they may accomplish as much good as possible from a scientific point of view, it is respectfully suggested to the distinguished gentlemen connected with them that they should publish their cases much more frequently than is now done. Each case of any importance has features of special interest, and they may rest assured that by the readers of this JOURNAL, at all events, all such reports would be duly appreciated.

THE APPROACHING MEETING OF THE NEW YORK STATE MEDICAL

ASSOCIATION.—The second annual meeting of the State Association bids fair to rival, if it does not exceed, the first in brilliancy and interest. The Association has now upon its roll of membership some five hundred and seventy-five names, and before the close of the meeting this number is likely to be increased to six hundred, or more. The programme is one which, for the number and variety of papers, has never been approached at a meeting of any State society in the country, and from the reputation of most of the writers, which comprise a large number of the ablest practitioners in every part of the commonwealth, these will be fully equalled by their general excellence and scientific value. On the printed list there appear no less than sixty-four medical papers and addresses, and since that was issued the titles of other papers to be presented have been sent in to the number of about seventy. There are four days of very solid work laid out for the Association, and no doubt one of the principal features of the meeting will be the discussion on pneumonia, which will be opened by Professor Flint, and participated in by a number of distinguished Fellows, who will take up in order a systematic series of questions relative to the nature, pathology, prognosis, and treatment of the disease. The Committee on Publication propose to get the Transactions for 1885 out in the briefest time possible, and if it shall at all equal the remarkably attractive and valuable volume of last year, they will have abundant reason to be satisfied with the result.

WANTED, numbers of this JOURNAL for January, February, March, and April, 1885; for November, 1884; January, February, March, April, May, June, and October, 1883, January, July, and March for 1880.

Persons willing to part with these numbers will please communicate with the publisher.

SPECIAL NOTICE.—All physicians subscribing now for this journal for 1886, will receive the October, November, and December numbers for 1885 free of cost. The subscribers will confer a favor by making this fact generally known.

NOTICE.—The editor wishes it to be distinctly understood that he does not hold himself personally responsible for the opinions expressed in any articles published in the JOURNAL, with the exception of those which appear in the editorial department, or those which are expressly endorsed by editorial comment in other departments.

TO OUR CONTRIBUTORS AND EXCHANGES.—All communications to the editor, as well as all exchanges and books for reviews, should be addressed to 22 West 31st Street, New York. Business letters should be sent to the publisher's address, P. O. Box 1124.

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ORIGINAL ARTICLES.

ARTICLE I.

THE PHYSIOLOGICAL AND THERAPEUTIC ACTION OF ANTIPYRINE.*

By WM. C. DABNEY, M. D., President of the State Board of Medical Examiners of Virginia.

I desire in the present paper to call the attention of the members of the State Society to a drug which many of them have probably used, but which does not seem to have attracted the attention in this country that it deserves, although a number of papers on the subject have appeared in the European journals during the past year, abstracts of some of these papers having been subsequently published in America.

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*Read before the Medical Society of Virginia September 17, 1885.

This drug, it is generally conceded, is the most powerful antipyretic as yet discovered, and has been appropriately called antipyrine.

It was first prepared by Knorr, of Erlangen, by the action of acetic ether on aniline.

It is a white powder, very soluble in water, so soluble, indeed, that a given quantity of *hot* water will dissolve twice its weight of antipyrine and keep it in solution when cold. It has a faint odor, not unlike that of the pepper-grass, and a bitter taste, which, however, can readily be disguised, and which soon passes off at any rate.

With respect to its physiological action there is some difference of opinion. All writers, however, agree that in healthy persons it causes little or no depression of temperature when a dose of thirty grains is taken.*

Queirolo† states that it dilates the blood-vessels of the skin slightly in healthy persons; but this effect, he says, is very much greater in febrile cases, and he thinks its antipyretic effect is due to this action; a view which is not in accord with his own observations, for the arterial pressure, measured by the apparatus of Baasch, was either not affected at all or slightly increased. If the capillaries and small blood-vessels of the skin were dilated to any appreciable extent, there would, of course, be a fall in the arterial pressure.

The frequency of the respiratory movements was not affected. The pulse was always diminished in frequency.

M. Arduin‡ states that antipyrine diminishes the force of the heart-beat. Animals to which it is given in large quantity die of cardiac paralysis. It generally produces perspiration in healthy individuals, and nearly always causes profuse sweating in pyretic individuals. The urinary secretion is usually slightly diminished, probably in consequence of the excessive action of the skin. So far as I can find, no observations have been made as to its influence on the amount of urea and carbonic acid excreted, except those of Arduin, in which the urea was increased. The urine does not contain albumen.

Antipyrine is eliminated by the kidneys, and may readily be detected in the urine by adding a few drops of a solution of perchloride of iron, when an intense red color is produced.

It is claimed that it has a hæmostatic effect [Arduin], the rationale of which is not understood.

In view of the fact that antipyrine does not cause a dilatation of the vessels of the skin, and does not diminish the amount of urea excreted, Dr. Arduin comes to the conclusion that it produces its antipyretic effect by a

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**Berliner Klinischer Wochenschrift*, 1884. No. 24.

†*Italia Medica*, June 5, 1884.

‡*Bulletin Génerale de Therapeutique*, March 30, 1883.

direct action on the thermogenic centres in the brain. No definite conclusion can yet be reached, however, as to its mode of action.

With respect to its therapeutic action as an antipyretic, the evidence is exceedingly strong. It was first used by Filehne,* whose observations and statements were soon afterwards confirmed by May, of Cologne, Rank, of Stuttgardt, and other observers. Alexander reported soon afterwards† fifteen cases in which it was used in Biermer's clinic in Breslau. Of these four were cases of pneumonia, two of typhoid fever, one of recurrent fever, two of measles, two of lymphadenitis, one of phthisis, one of intermittent fever, and two of acute articular rheumatism.

With reference to its value in different diseases there is some difference of opinion. It has been stated that it is least efficacious in pneumonia, a statement which is in accord with my own experience. In five cases of this disease in which I employed antipyrine last spring, it was necessary to give comparatively large doses (thirty grains) to get the temperature down to 102 degrees. In some cases of pneumonia, however, it acts most admirably. Dr. J. L. Cabell has told me of a case occurring in his practice where an elderly woman was taken with violent pneumonia. The temperature was about 105 degrees, and there was decided stupor. The high temperature was promptly reduced and the stupor dissipated by the administration of antipyrine. It would seem advisable to give the drug very cautiously when the time for the defervescence of the disease is approaching, lest collapse (which has been several times observed) may be induced.

In typhoid fever, after the administration of two doses of thirty grains each, at an interval of an hour, there is usually a fall of two or three degrees, which lasts from six to twelve hours. The course of the disease does not seem to be modified by the drug, but many of the troublesome symptoms are alleviated. Besides the reduction of temperature, the patient is frequently soothed, and drops to sleep. I have seen this happen time and again in cases in my own practice. The soporific effect was exceedingly marked in a very severe case of typhoid fever which recently occurred in my own family. In several of my cases, too, the delirium was temporarily lessened to a very considerable degree by antipyrine. In these very cases it was increased when quinine was administered.

Dr. William H. Draper, in a paper read before the New York Academy of Medicine on the 2d of April last,‡ stated that he had used antipyrine in twenty cases of typhoid fever. When compared with cold baths and quinine, its action was exceedingly satisfactory. The mortality in Dr. Draper's cases was twenty-five per cent. He remarks on the favorable influence which it exerts on the nervous symptoms, and says, furthermore, that "one of the most noticeable effects of the drug was the rapid cleaning up of the tongue under its use"—an effect which I have myself observed.

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*[*Zeitschrift für Klinischer Medicin.*](#) Band VII., heft 6.

†Breslau *Arztlischen Zeitschrift*, 1884: 11. ‡*Medical News*, April 11, 1884.

In remittent fever it is generally conceded to be useless.[*] In a single case of this disease I have seen a dose of antipyrine (30 grains), given at the commencement of the febrile stage, lessen the ordinary duration of this stage very much, and add greatly to the comfort of the patient.

In puerperal septicæmia it has been employed with good results. In two cases of this character in which I have myself used it, and in which the temperature was over 105°, there was a very prompt reduction of fever; in one, indeed, the temperature fell to 96.5°, while the pulse rose from 130° to 160°, and the normal heat was not regained for nearly eighteen hours. Two 30-grain doses were given in this case at an interval of an hour. Dr. Boldt, of New York, has reported[†] two cases of puerperal septicæmia in which he gave sixty grains of the drug, causing in his patients a semi-comatose condition and symptoms "generally resembling those of carbolic acid poisoning."

In scarlet fever favorable results have been reported from the use of the drug by Drs. Draper and Weber, of New York, Dr. Guttmann, of Berlin,[‡] and others. Dr. Vananzio states, however,[§] as a result of a careful study of the action of antipyrine in this disease, that its course is not modified in any respect, except that the appearance of the eruption may be delayed by its use.

There is a very wide difference of opinion as to its value in phthisis. Dr. Holland, of St. Moritz, Switzerland, whose practice is confined chiefly to phthisical patients, states[‖] that antipyrine has given better results in this disease than all other antipyretic remedies combined in his hands.

Ampugnani, a clinical assistant of Professor Marilliano, says[**] that the fever of phthisis may be suppressed by antipyrine, not only on the day that the drug is administered, but on the next day, and even on the third. Dr. Dujardin-Beaumetz, who is opposed to the use of antipyrine in other febrile diseases, says[††] it should be given in phthisis.

On the contrary, Dr. George B. Shattuck, in a report on the results obtained from antipyrine in the Boston City Hospital, says[‡‡] that its "desirability in phthisis is questionable." In view of the cardiac weakness which the remedy is said to produce, and the collapse which it has unquestionably caused in a number of instances,[§§] it should be given in this disease with great caution. The profuse sweating which it usually induces would be an additional drawback to its use in phthisis, but this can be prevented by the administration of agaricine or atropia.

In a case of pneumonia complicating hemiplegia, in which there was profuse sweating, along with a high temperature, which I have recently treated, the perspiration was checked, and the temperature at the same time reduced, by giving a hypodermic injection of ten grains of antipyrine and 1–120th of a grain of atropia in combination.

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[*] *Deutsche Medical Workhursehr*, March 12, 1885.

[†] *Medical News*, April 11, 1885.

[‡] *Bull. gén. de Therapeutique*, Nov. 30, 1884.

[§] *Practitioner*, May, 1885.

[‖] *Gaz. Med. de Torini*, July 25, 1885.

[**] *Italia Medica*, June 3, 1884.

[††] *Le Progrès Médical*, March 7, 1885.

[‡‡] *Boston Medical and Surgical Journal*, July 23, 1885.

[§§] *Tillmann's paper before Society of Internal Medicine of Berlin.*

It is needless to go more into detail with respect to the febrile diseases in which antipyrine may be employed with advantage. Huchard* thus sums them up: typhoid fever, phthisis, pulmonalis, pneumonia, pleurisy, acute articular rheumatism, cerebral rheumatism, erysipelas, diphtheria, puerperal fever, scarlatina, abscess, phlegmon, etc., etc. It produces an unfavorable effect when given to pregnant women (Chiara). The unpleasant symptoms which antipyrine may induce are, in the first instance, *collapse ;* this has been observed in a number of cases and in different diseases: phthisis, typhoid fever (Pushkareff), puerperal septicæmia, etc. Another symptom which has frequently been observed is an eruption much like that of measles. This was present in three of my cases, one of pneumonia and two of typhoid fever; but it was not attended or followed by any unfavorable symptoms.

The dose of antipyrine and its mode of administration differ according to different writers, and in different diseases. In phthisis from 7½ to 15 grains is a sufficient dose, and this may be repeated every four or six hours.

Filehne recommended that two 30-grain doses be given at an interval of one hour, and an hour after the second dose 15 grains more, making 75 grains in two hours. This mode of giving the drug is still followed by a number of writers on the subject in cases of typhoid fever or pneumonia; but recently it has been proposed to give from 10 to 15 grains every three or four hours, and excellent results have been obtained in this way. In one case I have given two 25-grain doses of antipyrine at an interval of an hour, and 15 grains of quinine, in addition, one hour after the second dose of antipyrine. It seems probable that in this way a more prolonged reduction of temperature would be obtained.

For children, on whom antipyrine, according to Penzolat and Sartorius,† acts well, the dose is 1½ grains for each year of the child's age.

It may be given hypodermically in the dose of from 10 to 15 grains, or by enema in the dose of 40 to 60 grains. When given in the form of a suppository it is said to have an excellent effect on hemorrhoids.

ARTICLE II.

PROGRESS OF ELECTROLYSIS IN SURGERY.‡ By ROBERT NEWMAN, M.D., New York, Surgeon to the Northwestern Dispensary.

At the meeting of the American Medical Association in 1883, held at Cleveland, I read a paper on "Electrolysis in Surgery; and Tabular Statistics of One Hundred Cases of Urethral Stricture." When that article was in press, a fire melted the type and burnt up a part of the manuscript. That was the the reason why the paper appeared later in two parts; one being published in the *Journal of the American Medical Association* of April 25, 1885, and the other, containing particularly the statistics, in *The New England Medical Monthly* for August, 1885. This paper presented a retrospective view of the work accomplished in surgical electrolysis up to May, 1885. As time and space were limited, no detailed report could be attempted, and therefore the brevity of the notes makes it resemble more an index of the subject, with references for detailed study, but embracing, in addition, some new researches.

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* *L'Union Médicale*, Dec. 6, 1884.

† *Berliner Klin. Wochenschr:* July, 28, 1884.

‡ Read at the first annual meeting of the Fifth District Branch of the New York State Medical Association, held at Brooklyn October 13, 1885.

The object of the present paper is to narrate what has been done in surgical electrolysis in the last two years; which makes it almost a continuation of the former article. It is a clinical record, without repetitions of former reports, theories, or descriptions of instruments. During these last two years some good work has been done by reliable men, which confirms the experience and reports of former periods. The only new work appears to be the application of the method to hernia and hemorrhoids, by Dr. Craft; and with this we begin our report.

THE RADICAL CURE OF HERNIA BY ELECTROLYSIS

is new and original. It has not been published before, and the information concerning it has been received through private correspondence with the successful operator, Dr. J. Craft, of Cleveland, a member of the American Medical Association, who has also operated for hemorrhoids in the same way. I cannot present the matter better than by giving verbatim the doctor's statement. The following are extracts from his letters:

CLEVELAND, O., May 7, 1885.

ROBERT NEWMAN, M.D.,

Dear Doctor: I have read with much interest your article on "Electrolysis in Surgery" and its special application to urethral strictures. I can most heartily endorse all you say on its application to strictures, having given it considerable attention.

I have been using electrolysis in two difficulties that you do not speak of, namely, hernia and hemorrhoids. I have applied a positive needle electrode, properly insulated, except at point, subcutaneously between the external and internal rings, and allowed a sufficient galvanic current to pass between the poles to excite quite an adhesive inflammation; being careful not to injure the cord, and to keep the needle external to the peritoneum. This results in a cicatricial sealing up of the inguinal canal, and in many cases seemingly permanently.

CLEVELAND, O., May 21, 1885.

Yours of the 16th inst. came duly to hand, and in reply I would say that it will give me pleasure to communicate to you my experience with electrolysis in the treatment of hernia and hemorrhoids. It occurred to me some time ago, while reading the method of Heaton, of Boston, for the cure of hernia by the subcutaneous injection of some irritant fluid into the inguinal canal, between the internal and external rings, that the same, and even better, effects might be produced by electrolysis, with less danger and as little pain as is produced by subcutaneous injection.

In operating, the hernia should be reduced first, and the sac carried up with it, if possible. Invaginate the index finger in the scrotum, following the cord to the external ring, keeping the cord and sac, if it remain in the ring, well pressed to one side, and held there beneath the invaginated finger, which should be pushed into or through the external ring if possible. Then, with a sharp-pointed bistoury, prick through the skin over the external ring. Through this puncture push a blunt-pointed needle electrode, insulated to within an inch of the end; carrying it well up between the rings, by the side of the invaginated finger, which holds the cord and vessels from contact with the electrode. Connect the circuit of about ten cells of a good galvanic battery, continuing the circuit for about six to ten minutes, according to the sensibilities of the patient; changing the point of the electrode from one side of the finger to the other, always keeping it as clear of the cord as possible, and directing the current from the cord. The other electrode can be held by the patient in the hand of the side operated upon, or elsewhere, as is desirable. You ask why I use the positive pole instead of the negative. For the reason that the positive is not so painful as the negative, and, being the acid pole, I conceived it would excite sufficient irritation and inflammation, and at the same time coagulate blood in the smaller vessels, thereby creating a harder cicatricial or adhesive inflammation than the negative or alkaline pole. I think the negative pole softens tissues, and will cause absorption of already formed cicatricial tissue. But in hernia, we want a hard, adhesive inflammation excited, thereby effectually sealing up the rings and canal. The more inflammation excited, so that the cord or vessels are not injured and it falls short of suppuration, the more radical will be the effect. There is no foreign matter deposited, as is the case in subcutaneous injections, to form a nucleus for suppuration. The patient should lie in bed for at least two weeks, and then use a well fitting truss for some time, until the parts become strong and firm.

CLEVELAND, September 29, 1885.

Yours of a recent date, asking me to give you a history of the cases of hernia treated by myself by electrolysis, was duly received. I operated upon three cases of hernia in the spring of 1884, while living in the State of Minnesota.

In the succeeding fall of '84 I was obliged to leave Minnesota, on account of a disease of one of my eyes contracted some four years ago. So I sold out, and moved to this city, my former home. Consequently, I cannot give you as full details of the cases as I would like. The cases I operated upon were all very similar —good healthy workmen, two of whom were section-hands on a railroad, and Norwegians; the other was an American farm-hand. The herniæ were all of comparatively recent date, caused by straining, in lifting heavy loads or jumping from a height. They were common oblique herniæ, through the external ring, but had not descended into the scrotum. One of the Norwegians returned to his native country about three months after I operated upon him; at that time he was well, and had done ordinary work, after recovery from the operation, until he left. Since that time, I have not heard from him. The other two patients had no return of the hernia, up to the time I left the State, about six months after the operation, and were working at their ordinary day labor. Since then I have heard nothing of them up to this writing. I may yet hear from them, and if so, will report the state of the case to you. Etc.

Truly yours,

J. Craft, M.D.

HEMORRHOIDS

have also been successfully treated by Dr. Craft, of Cleveland. He describes his method as follows (extracts from Dr. Craft's letters): In hemorrhoids, I apply the positive needle also, yet in a few cases I have applied the negative, but do not get such decided cicatrizing, and shrivelling up of the pile, as with the positive. I select the particular pole according to the peculiarities of each individual case.

If I want to absorb the pile, I insert the negative; if I desire to seal up the vessels by adhesive inflammation, I use the positive needle.

This closes the interesting report of Dr. Craft, which needs no other comment but the wish that other operators may test his method for the radical cure of hernia.

Our report further consists of the successful application of electrolysis in aneurism, port wine marks, epilation, uterine tumors, and strictures of the Eustachian tube and the œsophagus.

ANEURISM OF THE AORTA.

Dr. Francesco Brancaccio, in the *Revista Internaz. di Med. e Chir. Napoli*, 1884, I. Pp. 73-79, reports one successful case. The patient was 64 years old, and the aneurism was seated in the ascending aorta. A fifteen-cell Daniell's battery was used, and two needles were introduced into the sac, 1½ inches apart, at a depth of 1 1-5 inches. The galvanic current was kept up for sixteen minutes. Twenty days after, the operation was repeated. Four séances completed a perfect cure.

PORT WINE MARKS.

In a paper read before the American Dermatological Association, August 27, 1885, Dr. W. A. Hardaway, of St. Louis, says that he had success by using a single needle, which he prefers to a bundle of needles, formerly employed. After each operation he applies hot water, to allay the inflammation. Other members of the Society, Drs. C. Heitzmann, J. C. White, and G. H. Fox, had less satisfactory results, but reported considerable improvement and partial success,

EPILATION.

Dr. C. Heitzmann, of New York, in a paper, also read before the American Dermatological Society, August 27, 1885, extols electrolytic epilation. He uses six cells, of a Leclanche battery, and a needle made by Leiter of Vienna. which is so constructed that the depth of penetration can be measured and graduated. He has had good results from electrolytic destruction of dilated blood-vessels in the face.

UTERINE TUMORS.

There is a diversity of opinion in the profession about the practicability or even possibility of curing uterine and ovarium tumors by electrolysis. Skepticism in regard to the matter may be said to predominate, but the only justification for this is the contradictory reports of operators. Some relate their great successes, while others have failed utterly in their attempt; some have improved their patients, or diminished the size of the tumor materially without eradicating it, and some too sanguine surgeons have prematurely reported successes when afterward relapses have occurred. These apparent contradictions can be understood by carefully considering the subject. The nature and size of these tumors are just as different as the quality of the operators; and some tumors are amenable to treatment, while others are not. It may be difficult to make correct diagnosis and prognosis. The general state of the patient, her vitality, intercurrent diseases, and other circumstances, play also important parts in the result. Again, there is a difference in operators, and if some have not the capacity of endurance to succeed, others possess these requisites. Whoever knows the power of electrolysis will have confidence that uterine fibroids and other tumors can be cured by this method. There are on record such reports from good and reliable men, whose statements must be believed and put on record without any possible doubt.

Reckless statements and failures do not disprove other reliable successes. The additional accumulation of positive cures in our present report comes from four trustworthy men of good professional standing, and the results recorded constitute very valuable contributions to the progress of electrolysis, which ought to serve as a strong stimulus to others for further investigations and for the accomplishment of similar results. They comprise more than 100 cases, and are as follows:

Dr. J. N. Freeman, of Brooklyn, in a paper read before the Medical Society of the County of Kings, January 20, 1885, reports three successful cases of uterine fibroids. The first case was operated on in 1876, and cured in eight séances. The patient is well to-day, after the lapse of nine years. He varies his *modus operandi* according to indications. In one séance he used as the positive pole a platinum probe in the uterine cavity, and as the negative pole a straight steel needle, insulated to within half an inch of the point, passed through the cul-de-sac and into the tumor. The current was increased to twenty-eight cells for thirty-two minutes. At another séance the positive pole was a large sail needle, insulated to within an inch of the point, passed through the cervical canal into the tumor; while the negative was a straight round needle, insulated as before, and passed through the abdominal wall into the tumor, a current of sixteen cells being employed for fifteen minutes. The interval between the séances was from ten days to six weeks. In these three cases the operations required were two, eight, and five respectively, all under an anæsthetic. He uses the electrolysis in interstitial or subperitoneal fibroids.

J. T. Everett, A.M., M.D., of Clyde, Pa., reports seventeen cases of fibroids and one goître in the *New York Medical Journal*, April 18, 1885. His treatment is a mixed one, by the faradic as well as the galvanic current, and even operative procedure. His method of using electrolysis is rather heroic, in one case seventy cells being used.

Dr. Apostoli, of Paris, at the International Medical Congress at Copenhagen, August 10, 1884, proposed a new electrolytic treatment for uterine fibromata, characterized by very feeble electrical intensity, and by the vagina being oftenest the point of application of the positive pole. A clinical experience extending over two years, upon over 100 cases, had shown that the treatment constantly reduced the size of the uterus, and completely restored the patient.

Dr. Meniére, of Paris, also at the International Medical Congress at Copenhagen, 1884, advocated the destruction of uterine tumors by electrolytic puncture. He applies the treatment across the abdominal wall, and the method has been practiced by several other surgeons. He had marvellous results in six cases. He uses: 1. A battery of the continuous current of twenty-four cells; 2. Gold needles ten centimetres long, by one and a half millimetres thick, lance-shaped, and with cutting edges; 3. A needle propeller, with a graduated stop-notch; 4. Conducting wires. The operation is repeated twice a week, or less frequently, each sitting lasting twenty minutes.

STRICTURE OF THE EUSTACHIAN TUBE.

At a meeting of the Académie de Médicine, March 11, 1884, M. Mercier read in his own name and that of M. Garriçon-Desarénes a note upon the treatment of stricture of the Eustachian tube by electrolysis. The operation consisted in passing a fine silver sound into the Eustachian tube, and a small olive-shaped electrode into the external auditory meatus. A feeble current is then passed, the sound is gradually pushed on, and the stricture disappears.

STRICTURE OF THE ŒSOPHAGUS.

Brilliant results of electrolysis in this affection have been recorded previously. Only one peculiar case can be added in which electrolysis produced a cure in conjunction with gastrotomy. This case was reported by Professor H'jorth, of Christiania, at the International Medical Congress in Copenhagen. The stricture was caused by the patient swallowing an alkali. The contraction following was of such a nature that no sound would pass below the cricoid cartilage, and swallowing was nearly impossible. Gastrotomy was resorted to, and electrolysis applied at the part. The current was commenced with five cells, gradually increased to fifteen cells. After one hour the electrode bougie suddenly passed through the stricture. The second application was made after twelve days, after which the stricture was so well cured that the patient could eat and swallow both solids and fluids, and a Charrière bougie No. 19 passed through the former stricture both ways, from below and above. Two weeks later the gastric fistula was closed by operation. The prognosis in œsophageal stricture is almost always grave. The elaborate statistics by M. Petit, of Paris, of 155 operations show only two per cent. of cures and seventy-five per cent. of deaths. Therefore electrolysis in œsophageal strictures must necessarily play an important part in the treatment in future.

It will be observed from the foregoing that methods and instruments for electrolysis vary somewhat, and while they all may be good, the author of this paper has only related the facts, without making any comments. For those who wish to learn more details, the following references will be useful:

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ARTICLE III.

THE CAUSE OF FEVER.—By L. B. ANDERSON, M.D., Norfolk, Va.

In an article published in this journal on "Malaria and Quinine," we attempted to demonstrate that malaria, so-called, whether vapor, gas, spores, or germs, was not the cause of fever; that the assigned conditions of its generation were such that localities similarly situated with reference to those conditions were dissimilarly affected, and hence such diseases as were produced in one which were absent in the other were due to factors arising apart from the ordinarily assigned sources of malaria; and that since heat, moisture, and organic matter are essential to the generation of malaria, and malaria is essential to the generation of fevers, it is evident that fevers generated where the essential factors of malaria are not found can not be produced by malaria; and hence that malaria is not their cause. Taking either horn of the dilemma, we are driven to the conclusion that fevers are not produced by malaria, or that malaria does not spring from its assigned factors, or, lastly, that malaria is a very different agent from what it has been assumed to be.

It is essential that we shall clearly define what we understand by the term "fever," before we proceed to designate its cause, for without such definition we may be placed by our readers in the ridiculous attitude of classifying pneumonia or peritonitis among the so-called idiopathic fevers. We state, therefore, that such arterial excitement and local and systemic elevation of temperature as arise from inflammation in the brain, lungs, stomach, bowels, kidneys, peritoneum, or other organs and tissues, we do not define as fever in the ordinary acceptation of that term. But such disturbances of the physiological laws governing the functions of any important vital organ as will produce accelerations of pulse and exaltations of temperature we define as fever, whether in the progress of such disturbances inflammation be lighted up in any organ or tissue or not. Fever, then, is an abnormal state of temperature and pulse, arising from suspended or perverted functions of the animal economy, and this aberration of temperature and pulse, whether above or below the normal standard, is dependent on the conditions, for the time, of the centres supplying the vaso-motor nerves.

That there can be no departure from a healthy condition of system without functional derangement, is apparent from the fact that the highest expression of health is given by a perfect performance of all the functions, and the strongest expression of disease is exhibited by the greatest departure from functional perfection. The degree of diseased action is, therefore, expressed by the measure of departure from a normal functional activity. No morbific agent entering the blood, or any organ or tissue of the system, can impress the system except through some one or more of its functions. Thus, the morbific agent from which springs variola might circulate indefinitely with the blood; yet its presence would never be appreciated unless some functional derangement should ensue; nor would such functional aberration ever be developed were the vital organs sufficiently energetic to eliminate the virus as fast as it was received or incubated. From this self-evident conclusion we deduce the following: that the potency of all so-called zymotic diseases is measured by the inability of the functions—nervous, vascular, secretory, or excretory—to resist or eliminate it, *et vice versa*. Hence Dr. Bankhead, of this State, before the introduction of vaccine virus, who kept a hospital for inoculating patients with variolous virus, would never operate on an infirm or diseased person, and when he had fully prepared a perfectly healthy patient by low diet, purging, etc., the effect of the inoculation was so slight as scarcely to produce a feeling of malaise. It is often the case that three persons are exposed at the same time to the virus of small-pox, all equally unprotected. One will have it badly, one mildly, and one not at all, owing, evidently, to the comparative activity of their respective functions in eliminating the virus from the system.

It will be well, also, to define what we mean by the *cause* of fever, as we often find the influences that produce the derangement from which the fever springs denominated its cause, while in other instances the morbid state producing the fever is said to be the cause. So far as the febrile state itself is concerned, it can no more be said to be the disease than the blush of shame is the emotion from which it springs, for both are only indications of internal conflicts which find expression in these outward manifestations. Were we to say that cold was the cause of the fever accompanying pneumonia, we would give no just idea of the pathological condition or the indications of cure. But were we to say that pneumonia was the cause of the fever, no matter from what *it* originated, we would convey a correct idea of its pathology and indicate the line of medication. So varied, however, are the pathological states from which fevers arise, though these pathological states are the real cause of the fever, and must be treated and removed before the fever is subdued, it would be a difficult matter to characterize them in a phrase so as to render them comprehensible. So in this discussion, for brevity's sake, we shall speak of the agents producing the derangements from which fevers arise as the cause. If, however, we inadvertantly speak of "removing the cause of fever," let it be borne in mind that we distinctly refer to the morbid condition of the organs and functions.

Though malaria has been considered the cause of a variety of fevers, we make no question that no one agent is always the cause of the same fever. While, as previously shown, no such agent as malaria has ever been proven to exist, we have no doubt that agents and influences do often produce fevers as varying in their types and characteristics as the ages and constitutions of the parties affected. Thus, the same agent may produce in one person a simple intermittent, in another a remittent, in another a continued ; in one a simple, in another a congestive, and in the third an inflammatory; in one a sthenic, in another an asthenic, and in the third a typhoid ; and in others again a variety of modifications and combinations of these. I have seen an intermittent pass into a continued, and a continued lapse into a typhoid fever. I have seen, under certain plans of treatment, a continued fever reduced to an intermittent in a day or two, and cured by quinine, and I have seen the same type of fever, under other treatment, pass into adynamia and typhoid. Thus, while one and the same cause will always produce the same effect, all things being equal, so unequal are the habits and constitutions of men that almost a numberless variety of effects will result from one and the same cause on as many different persons. So also as to the causes which operate to produce fever. Twenty persons may have fevers of the same type and character, and yet no two of them may spring from the same cause. Thus, pneumonia may spring from concussion, inhaling acrid vapors, breathing hot steam, sitting or sleeping in a current of air, passing from a heated to a cold atmosphere, sitting on the damp ground, sleeping in damp sheets, wearing wet clothes, over-exertion in running or wrestling, and many more ; and still the type and character of the pneumonia may be the same in all the cases. On the other hand, twenty persons may be exposed to one or another of the above causes, and no two of them will have the same disease. In each one the organ least able to resist the pressure will succumb, and one may have bronchitis, one pneumonia, and another pleurisy, etc. So we look for as many causes of fever as there are mental, moral, and physical agents to act on the system.

The *modus operandi* of physical agents depends more on the constitutional peculiarities of the individual than the nature of the agent. Tobacco, for instance, will produce, when smoked, great prostration and nausea in one person, and exhilaration or serenity in another. A cold bath in one will produce chilliness and nervous prostration, in another warmth and energy. Extreme cold will incapacitate one for any physical or mental exercise, while it will enliven and stimulate another. Extreme heat will put into vigorous exercise all the functions in one person, and debilitate and prostrate those of another. It is often, also, the case that any one of the above agents will operate on the same person very differently under different conditions and circumstances.

The most striking type of what is usually denominated malarial fever is a remittent—beginning with a swimming fullness or aching of the head, soreness or pains in the muscles, especially of the back and extremities, alternate sensations of heat and cold, a gummy, offensive taste in the mouth, fulness or nausea of the stomach, constipation or looseness of the bowels, in the latter case attended with thin, frothy, earth-colored discharges, scanty high-colored urine, and frequent alternations of dryness and moisture of the surface, now with thirst, and then with loathing of drinks. This state may continue, with greater or less positiveness, until finally a chill will supervene, followed in a shorter or longer time, by an active fever. The chill frequently is no more demonstrative than a sense of cold creeping along the spine, cold hands, feet, and nose. The fever is often very high, the pulse frequent, the arteries of the neck and head and the abdominal aorta throbbing violently, the head aching as if it would burst, the thirst insatiable, the stomach nauseated, with frequent retching and vomiting, the urine scanty, high-colored, and scalding. When not judiciously treated, the fever will only decline after two o'clock at night, and remain in this state until about nine or ten o'clock the following day. What is the pathological state which gives rise to these symptoms?

The ostensible developments are torpidity of the liver, kidneys, and skin. The effect of a suspension of these functions is to retain in the blood vitiated matters which operate on the nervous centres, and will ultimately produce a condition of torpor which abstracts the ordinary nervous energy from the *vaso-motor* nerves; resulting in the stagnation of blood in the larger vessels, and a chill. Should the state of congestion producing the chill not be so overwhelming and profound as to obstruct all vital activities, there will in the period of chill be an accumulation of nervous energy in the great vaso-motor centres, which, being imparted to the vessels over which they preside, will put them again in motion, and produce reaction. This exaltation of nervous energy and muscular contractility, should the irritating character of the retained vitiocities be not too great, will soon expend itself, and a period of universal repose and quiescence will follow. The enfeebled state of certain nervous centres and vessels, unless supported, will in most instances, especially if vitiated matters have not been removed, be unable to preserve for any length of time the equilibrium of the circulation. This failing, another chill and fever will follow. If, however, the matters retained by suspended secretions are of a peculiarly irritating character, when the reaction occurs the stimulus, acting on the peripheral extremities of the *vaso-motor* nerves, will perpetuate the febrile reactions, overpowering weakened organs and tissues, lighting up congestions, inflammations, and other troubles, and thus often perpetuating the fever and changing its type. Thus, to undertake to form a correct idea of the preliminary or early pathological changes by a *post mortem* examination, after these complications have arisen, is both futile and unreliable.

Should, however, a full cholagogue cathartic be given contemporaneously with the reaction, and healing diuretics and surdorifics with diluents, etc., be administered during the action of these, vitiated accumulations, both of secretions, excrementitious matters, and plastic mucus, will be swept from the bowels, the activity of the liver, kidneys and skin will be restored, and the blood will be rapidly depurated, while in a reasonable time all sources of undue excitement and irritation will be eliminated, and a remission will follow. Taking advantage of this period of repose and equilibrium, an agent calculated to give tone to and maintain the energy of the vaso-motor nerves, being given, the status is preserved.

We have thus traced these changes, so familiar to every observing physician who has been compelled to sit by the bedside of hundreds of patients in the condition described, and marked the progress of the morbid changes and the effect of remedies, to show that there is no reason to look for their cause in the supposed operation of some undefined, mysterious agent, but in ostensible, sensible, rational causes, which may be read and known of all men. The *modus operandi* of these causes being such as to mark well the pathological changes, we have the indications of cure so distinctly marked as to be able to meet the emergencies in a bold, rational, and scientific manner.

The first indications of a departure from a sound functional status is observed in the chilo-poietic viscera, evinced by loss of appetite, fulness, indigestion, oppression at the præcordia, foul tongue, with all the usual sympathetic troubles in other organs, speedily following. Ample experience in my own person has taught me that these are the precursors of a speedily approaching fever. If a mild but efficient purge be given in this condition, large quantities of plastic mucus, bile, offensive ingesta, etc., will be carried off, with an entire relief of all the symptoms. One feels as though a great weight had rolled from him, and the laboring organs again work freely and easily. The condition which is thus removed may be caused by a variety of influences, one or two in some, a combination in others. Thus, in the month of September, during a withering drought, when the burning, sickening rays of the sun are pouring upon the parched earth, and are being reflected with double energy, we find the perspiration is streaming during the day from every pore, thus exalting the activity of the skin; and when the evening comes on, the sufferer seeks the cool open air, and often remains till "a cold shuddering dew dips him all over," thus subjecting his organs to a violent revulsion. Another, while sweltering in the scorching heat, quaffs a large draught of ice-water. Another will seek a passage in the house at mid-day where he is fanned with a current of wind. Another will drink freely of the water springing from a soil containing an unwholesome combination of vegetable and mineral matters—the best he can get. Another will struggle the day out in the sun's sickening rays, until his clothes are saturated with moisture, and then, wearied and worn, throw himself in his wet clothing upon a couch, between two windows, to sleep in a current of air. Another will stimulate his appetite with a julep and eat voraciously of bacon and cabbage. Others will eat very freely of melons and fruit, which will pass into fermentation, because of the absence of bile, and produce a diarrhœa which will weaken and enfeeble the vessels and invite congestion.

There can be no difficulty in discerning how any of the above agents may suspend the secretions, coat the duodenum, especially, and all the alimentary tract with plastic mucus; preventing the flow of vitiated accumulations from their glands, and the absorption of fluids for nutrition. Nor will it be any stretch of imagination to conceive how these derangements will gradually prostrate the centres from which spring the vaso-motor nerves, and thus invite congestion and chill. And when this link in the morbid chain has been forged, we can readily see how each circle in the revolving paroxysms, when not broken by timely interference, will add new and more potential morbid factors, till the whole column of vital organs is thrown into disorder and disease runs riot in all the system. Nor can one accustomed to observe the *modus operandi* of medicines fail to appreciate how, when vitiated matters are removed from the *primæ viæ*, and the functions of the secretory organs are restored, the fever will decline *pari-passu* with such restoration, nor when the balance of the circulation has once been broken, how it will ebb and flow, till the nervous centres are restored, nervous influence equally distributed, and the equilibrium re-established.

But there are places where heat and water and vegetable, as well as animal matter, are conspicuously present, where fevers prevail at certain seasons, to a great extent. Are they not caused by malaria? There are other places, abounding in water, animal and vegetable matter, and exposed to as high a degree of temperature, where fevers never prevail. Not a factor for the production of so-called malaria is found in one which is not found in the other. Then, as both have all the elements for the generation of this much dreaded agent, and there is no evidence of fevers in one, while they prevail in the other, it is evident that they are produced by a factor non-essential to the generation of malaria, and that malaria is not the cause. Where on earth can be found more vegetable and animal matter, abounding in water, covering miles in extent of peat, and where the temperature during the summer and fall is more propitious for decomposition than in the Dismal Swamp of Virginia and North Carolina, Lake Drummond, and the Pocosin swamps, of Virginia; and yet fevers are very rarely, if ever, seen in any of these. Let, however, the parties who work in these swamps for months go out on the sandy hills or flats if you please, upon the southern banks of the James, and work beneath the burning sun, and expose themselves to the night dews, for a few days, and they all will have fevers. Let a resident of the creek-pond country of Caroline County, Virginia, work in the sun all day and return to his home on a high, sandy hill at night, and when the atmosphere begins to cool the vapors which have risen insensibly during the day from the neighboring houses will settle round about him, and hang to the summit of the hill, like the smoke about the crest ot Vesuvius. In this damp and chilly atmosphere he passes the night, and in the morning as the sun's rays begin to penetrate the cloud it lifts itself, rendering latent abnormal heat and causing such a fall of temperature as almost to force a chill. This I have often experienced. Any one of these agencies, it requires no astuteness to understand, must induce in a brief period those morbid changes which, when not timely broken, must result in fever. And when a person has been exposed for a time to any of these influences, but without fever, a childbirth, a severe shock of any kind, a saline cathartic, an attack of indigestion, will precipitate a fever.

Excessive heat from the direct rays of the sun, mingling with the rays reflected from the scorched and arid earth, I have found to be one of the most potent agents in debilitating the nervous centres which preside over secretion and nutrition, and putting into operation those morbid changes which produce fever. Next to this is the combined effect of the same influence during the day, and the condensation of vapors from contiguous evaporating surfaces, whether marshes, ponds, or expanded wet surfaces, during the night, and their rising again in the early morning, around dwellings especially on elevated points. Then, after exposure to the influences above named, and eating imprudently, drinking impure water, sitting or lying on the wet ground, exhausting labors of any kind, and debilitating evacuations, come next in the order of generating agencies of disordered functions and fevers. The heat, moisture, and vegetable decomposition are abundant in the Dismal and Pocosin swamps, but the sun's rays are excluded by the trees, and hence there is no fever.

When, however, an individual with a fair proportion of health, with no organ specially weakened by previous disease, succumbs to the disease-producing agent above described, the morbid changes are generally few, and easily removed, if taken in time. If, however, they are neglected, or the party affected has a weak digestive apparatus, bowels, kidneys, or other important organ, the departure from health is generally marked and formidable, and will require great judgment to manage it properly. In such cases the period of intermission is bridged over, and in its place there is often scarcely a sensible remission.

The secretions are so entirely suspended that the liver, kidneys, skin, and mucous lining of the bowels are no longer separating impurities from the blood, and these are retained, passing through various chemical changes, and producing agents highly deleterious to health and life. Thus simple fevers may pass into adynamic bilio-gastric, or, should ulceration of the intestinal glands ensue, into typhoid.

I care not how formidable a fever may be, or how violent the morbid development, just so soon as all the organs and tissues are restored to a normal condition the fever will depart. Hence, I have no sympathy for that sentiment which declares that any disease has a specific duration, and it can never be cut short, and all that a physician may dare to do is to protect the weak points, while the disease is satiating its thirst, glutting its voracious appetite and consuming with its pent-up fires the life-blood of the patient. No, no; I could never subscribe to such a doctrine as this. I have seen under proper preparation and judicious treatment exanthemata hastened to a salutary conclusion, while under other circumstances I have seen them last for many days longer. So I have seen pneumonia arrested in five days, and I have seen it last fifteen. I have also seen typhoid fevers cured in nine days, and I have seen them last forty-one. If the system, when first exposed to variola, could be brought into a vigorous exercise of all its functions, and the diet, and habits well regulated, I see no reason to doubt that it could be rendered very mild, and the virus speedily eliminated.

But when the virus of variola begins its work, and the secretions are suspended or deranged, its escape is prevented, and it falls with double energy on some weakened organ, and finally finds its exit almost entirely through the martyred skin. So when the glands of the small intestines first take on diseased action, if the secretions are under good control, no drastic or morbific matters will irritate the sensitive lining of the intestines, and the diseased condition will more readily yield at that period to remedial means than at any future time. Indeed, according to the usual expectant plan, the only hope I can see for recovery is based on the tenacity with which the patient may adhere to life, while the vital tissues are wasting to such a degree of pauperism as to leave nothing on which inflammation can feed or ulceration be perpetuated—thus well-nigh suffering the patient to die in order to cure the disease. Indeed, such a plan of treatment, or rather of non-treatment, opens a field for the formation of organic alkaloids, or ptomaines, which not only poison the blood, overpower the vital forces, but render the discharges highly noxious and detrimental to others.

Then, it is only in the advanced stages of typhoid fever that one can say there is danger of infection either from the person or his discharges. Any disease which has progressed to the period when the vital fluids have passed beyond the control of the vital laws, and are influenced greatly, or in part, by chemical laws, is liable to be the prolific parent of ptomaines, which may render it highly infectious. We can readily comprehend how these organic alkaloids can be formed in bad blood flowing through wasted and broken-down tissues and how in this way rubeola, variola, scarlatina, diphtheria, cholera, and certain fevers in their advanced stages are contagious or infectious. Much more rational is this theory than the assumption that they are all owing to the presence and effect of living germs, which rests on no better basis than the assumption that the maggots which revel in putrid sores are the cause of those sores.

We are told by Wolfenden, in summing up the progress of investigations into the nature and origin of certain albuminous alkaloids called "ptomaines," because first discovered in the cadaver, that the discovery by Selmi, the pioneer in this important field, was made while examining corpses dead of arsenical poisoning. He found that in the decomposition of animal tissues there were disengaged certain alkaloids, liquid, crystalline, or gaseous, which were of great variety as to chemical reaction, taste, odor, and physiological effect. Some were easily soluble in some liquids, some in other liquids. Some were easily volatile, and emitted a pleasant odor, while others were very offensive. In many of their chemical reactions they resembled the vegetable alkaloids, as well as in their taste and physiological effect on the living tissues. Thus, some resembled strychnia, some morphia, some aconitia, some veratria, some muscarin, some collodin, some parvolin, etc. Such investigators as Selmi, Gautier, Brouardel, Boutmy, Sonnenschien, Quelzer, Schmiedeberg, Bergmann, Ciotto, Brieger, Stard, Neucki, etc., who have directed attention to this question, have developed the following facts:

These alkaloids are not only formed from decomposing animal tissues after death, but are found in the saliva, urine, snake-poison, etc., during life, and are often developed in the putrefaction of vegetable substances. They are developed in the decomposition of albumen, peptone, casein, muscle, and brain. Some are highly toxical, while others are inert. Professors Annep and Poehl, of St. Petersburgh, "sum up (we are informed by the *A. J. of M. Sciences*) an interesting article based on their own investigations, and a full review of the literature," with these, among other, conclusions: "Putrefaction, fermentation, and as yet other indefinable alterations of albuminous substances, are accompanied by the generation of alkaloid-like bodies, ptomaines; their number being very great, and their chemical and poisonous properties very different. They are fixed, volatile, fluid, solid, amorphous, and crystalline. They behave very differently, some being soluble in water, others in ether, alcohol, benzine, chloroform, and amyl-alcohol. Some are tasteless, others intensely bitter, or sweetish and aromatic; while some emit a fragrant odor, others evolve a cadaveric odor, or like conine or nicotine. They are optically inactive bodies, and their color is highly variable." M. Maas describes ptomaines extracted from putrefied masses, by different chemical processes, as follows, "1. Is of reddish brown color and fleshy odor, paralyzing frogs and killing them in a short time, and acting like strychnine on warm-blooded animals. 2. Two different alkaloids; one crystallizes in beautiful color less transparent crystals, and emits a strong odor of putrefaction, and acts on frogs like morphine. 3. An extremely toxic property, paralyzing the heart and decomposing the blood. 4. Acts upon frogs like strychnia."

The sum of the knowledge we have on this subject is: 1st. That ptomaines are generated in the putrefaction of organic matter, whether animal or vegetable.

2d. That they are found in the saliva and urine of the living subject, and probably are formed by disintegration of the nitrogenous tissues.

3d. That they are sometimes very poisonous, penetrating the vaso-motor nerves, paralyzing the heart and disorganizing the blood.

4th. That some varieties act upon the nervous system very much like strychnia, others like morphia, and others again resembling in their physiological effects almost all of the poisonous vegetable alkaloids.

From these well-ascertained facts we find no difficulty in understanding many of the morbid developments in the course of fevers, and other diseases, as well. In the course of typhoid fever, and often of adynamic bilious fever, we find a persistent stupor which observant authors and practitioners have long ago taught was the result of no cerebral disease, but only the result of sympathy with the morbid state of the abdominal organs. It is well known that so soon as the congestion of the organs named is removed, and the secretions restored, the stupor departs. How beautifully is this state explained on the supposition that the suspension of the secretions, and the retention in the blood of morbid agents, especially the débris of nitrogenous tissues, has resulted in chemical changes, producing ptomaines, which have produced the typhoidism; and so soon as the secretions are restored and the pent-up vitiosities are removed, these alkaloids are thrown off and the stupor ceases. When the vessels of the bowels are loaded with vitiated matters, unable to find exit through the emunctories obstructed by mucus and congestion, we can well imagine that rapid chemical changes would occur, and poisonous organic alkaloids would be formed, which, finding at length ingress into the bowels, would be thrown out with the dejections, and, being volatile, might contaminate the atmosphere, or, finding their way into cisterns or wells, and being soluble, would poison the water, and thus through the air or water, or both, others might be contaminated. Selmi informs us that he has found two volatile bases, one resembling nicotine, the other conine, in the urine of patients laboring under progressive paralysis—two in interstitial pneumonia, one having the odor of putrid fish, the other of ammonia; two in the urine of patients with abdominal typhus—a base like conine in the urine of a tetanic patient; and in miliary fever an alkaloid was found in the urine, emitting an odor of stinking fish. There can be no doubt, therefore, that the inferences drawn above rest on a valid basis.

While, therefore, many diseases are generally non-contagious, and cannot be communicated to others from the sick, there may be stages of all violent and protracted maladies in which ptomaines are developed, through the influence of which the affection may be communicated to others. In like manner, we may rationally account for the influence of putrescent accumulations in the streets and lots of cities producing disease, whether these accumulations be solid or fluid, animal or vegetable, or a combination of all. For Annep and Poehl inform us that ptomaines from similar sources give the same reaction as those from corpses or of other extractions.

Just here arises one of the most striking illustrations and verifications of some of the principles we have previously announced, viz.: that when all the vital organs and functions are in a state of perfect integrity, they will throw off such agents as primarily act through the blood as fast as they are received. But in certain conditions, or as Sydenham terms it, "constitutions," of the atmosphere (therein including meteorological states), the system is brought into such a state of disability that it is rendered an easy prey to the *casi malorum*. Hence, the streets and lanes and lots of a city may teem with putrid sinks and cesspools and filthy garbage accumulations, from which, for years, have emanated clouds, it may be, of ptomaines, and yet but few, if any, have suffered any detriment. Let, however, a change in the usual temperature, humidity, electrical state, or other condition of the atmospherical constitution occur, so as to operate unfavorably upon the vital functions, and enfeeble their powers, then whole communities will go down under the effect of the absorbed, inhaled, or ingested alkaloids.

As certain chemical agents when brought into contact *always* produce the same results, so the peculiar ptomaines disengaged at a given time will produce similar diseases. Hence, at certain periods whole communities are scourged with cholera, yellow fever, variola, rubeola, typhus fever, or plague, depending on the physical condition of the people, the meteorological state of the atmosphere, and the nature of the ptomaines evolved.

ARTICLE IV.

THE TREATMENT OF CARBUNCLE. By HENRY K. LEAKE, M.D., Dallas, Texas.

In the *Journal of the American Medical Association*, Dr. Bulkley, of New York, has recently published an article entitled, "The Treatment of Carbuncles Without Incision," which I regard as most opportune and of much practical value.

The article referred to is based on an experience afforded the writer in the case of a large carbuncle, the management of which was novel in the fact that all attempts to abort the inflammatory process by any of the usual means, more particularly that of incision, were scrupulously avoided, and a mild astringent and soothing local and non-stimulating systemic treatment adopted instead, with the most gratifying results. In dealing with cases of the kind described by Dr. Bulkley, I have resorted to the incision and caustic treatment respectively, and in one case which I recall both these methods were combined. The caustic preferred was the chloride of zinc in the form of points prepared somewhat after the method described, I believe, by Maissonneuve, and inserted deeply into the openings situated over the crown of the carbuncle. In one case a strong carbolic acid solution was employed as an injection through the openings and into the infiltrated base of the swelling, the sloughing interior of which was thereby effectually cauterized and as nearly as possible rendered aseptic.

By such procedures it was intended, by exciting a new action in the part, to limit the gradually enlarging inflammatory mass, facilitate and expedite the formation and separation of the resulting slough, and destroy septic elements whose generation might be favored by the necrotic process. In all cases, following the application of the caustic, poultices were persistently applied until the tough and coherent slough had been loosened and expelled; which was invariably accomplished slowly and with much pain and irritation.

To the oftentime unhealthy and indolently granulating cavity left by the sloughing process, stimulating and antiseptic ointments or lotions were applied until the level of the surrounding skin had been reached by the elevating base, or later on, until cicatrization was finally completed.

The local treatment of carbuncles such as I have attempted to briefly outline, and on which I have relied in my own practice, is, in the main, perhaps, that which is generally resorted to with more confidence than any other. It cannot be said, however, to have afforded that degree of satisfaction so earnestly desired, yet seldom obtained, in the management of this somewhat obscure pathological condition. Manifestly the method of Dr. Bulkley is an improvement on what might be called the radical plan of dealing with carbuncles, and, in my opinion, it will be substituted for the latter. At all events, the enterprise and conservatism of Dr. Bulkley have revived the dormant activity of the profession towards the removal of what is considered justly an *Opprobrium Medicorum*, and has indicated the direction in which we may safely experiment, if he has not supplied the most efficient therapeutic means by which we may successfully combat carbuncular inflammation.

In many cases of carbuncle the constitutional irritation and vital depression is very marked. The system is profoundly impressed very much as when laboring under continuous shock, which condition persists in a more or less intensified degree during the existence of the carbuncular process. There are other cases, examples of which I have seen, attended by little, if any, prostration, the system remaining unaffected by the local disease from first to last.

The general treatment, therefore, as respects the use more especially of stimulants, will be varied according as the stability of the vital powers or the contrary condition obtains, the latter being frequently met with in the case of habitual drinkers, in whom I have observed the carbuncular malady to be attended by an alarming amount of depression necessitating an early and liberal resort to stimulants and the most nutritious food.

In the treatment of his case Dr. Bulkley, taking a new departure from the orthodox routine, eschewed the employment of stimulants altogether, and, as the result showed, they were not essential to the case, as we might be induced to believe from the statements of some authors. At the close of his remarks he adopts this article of treatment, with a rigid qualification, however, into the canon of rules which he formulates as a suggestion for the therapeutic guidance of others who may have occasion to deal with similar cases. The rational employment of stimulants under these circumstances is by Dr. Bulkley made to supersede their abuse. That they often have been abused as a mere routine, and therefore unscientific, application to this condition is certain, and good service has been rendered the profession by demonstrating in this connection amongst other useful things this important fact.

A case which I have treated since the article of Dr. Bulkley appeared, and which confirms in an eminent degree his observations, I will briefly record.

On July 30 I was called to attend Geo. Schrader, German, age 45, medium height, sparely built, weight about 135 pounds, occupation, wood-hauler, no history of gout or diabetes. He had always enjoyed good health and had led an active out-door life. He is a moderate drinker, seldom exceeding two glasses of beer a day.

Examining him, I was shown a carbuncular mass of huge dimensions, situated on the back, in the lower lumbar region, to the right of the spine and encroaching well on the corresponding buttock.

The area of inflammatory induration and swelling, carefully measured, was five and one-half inches in diameter—occupying a space over the crown of the swelling, which measured two and a half inches in diameter. There were eight or ten sieve-like perforations, which gave exit to a scanty and thin yellow discharge The whole inflammatory mass was considerably raised above the general surface and presented on the summit a purplish-red appearance which gradually shaded off into a wide aureola of brighter redness which pitted on pressure. For the most part it was exceedingly hot and hard to the touch. There was no sensation of fluctuation to be elicited, as in cases of ordinary abscess; nor could the discharge which appeared at the site of the openings in the skin be increased to any extent by firm pressure made in their immediate neighborhood.

The patient was very restless. He had suffered much from loss of sleep, and had little, if any, appetite. His pulse was about one hundred, of fair volume only, and very compressible. The temperature was 102° in the evening.

No physician had been called, but an old hospital nurse living in the house had applied slippery elm poultices and had administered a dose of pills which had thoroughly moved the bowels.

A friend in attendance imperiously demanded *that an incision be immediately made*, as this, he vehemently urged, was the orthodox treatment. With some difficulty I explained that the treatment by incision was not necessary, and had better be avoided, and finally, after much argument, obtained the consent of all interested to faithfully carry out my instructions.

Accordingly, the ointment as employed by Dr. Bulkley was ordered to be thickly spread on cloth and applied over and beyond the contour of the carbuncle. Over this was placed a double layer of absorbent cotton, and, to retain all *in situ*, a flannel bandage was snugly passed around the body. This dressing was to be removed morning and evening.

The following is the formula for the ointment, and it is repeated here for the convenience of those who may not have seen it as originally published by Dr. Bulkley himself.

℞ Ergot. Fld. Extr.	ʒij.	
Zinc. Oxid.	ʒj.	
Aquæ Rosæ Ungt.	℥ij.	M.

The internal treatment also was conducted on the same therapeutic lines as laid down by Dr. Bulkley in his article. A fourth of a grain gelatine-coated pill of the sulphide of calcium was directed to be taken every second hour throughout the day until late bed-time, to be suspended during the night and promptly resumed early on the following morning. To secure a good night's rest if the patient was sleepless, a twenty-drop dose of the Liquor Opü Sedativus was ordered to be administered about ten o'clock P.M. The refrigerant and tonic mixture of Dr. Bulkley was replaced by minute dose of the tincture of aconite, combined with the spirits of nitrous ether, taken in water every hour when awake. The bowels were to be kept moderately open by means of epsom salts or warm water enemata. The daily regimen of diet to consist for breakfast and dinner of thin but nutritious beef, or other animal soup, in which a plentiful quantity of rice had been well cooked; and for supper oatmeal and milk, with tea and crackers, or stale light bread toast, was allowed. Stimulants in every form were forbidden, and confinement to the house not insisted on.

On the following day, July 31, it was evident that no material advance had been made by the carbuncular inflammation since the first visit. There was no alteration in the local appearances, excepting, perhaps, that the apertures in the livid area of skin occupying the summit of the mass were enlarging their circumference and emitting a more abundant discharge. The pulse characters were unchanged. Temperature not taken.

August 1. At this visit an improvement in the local conditions was observed. There was a perceptible diminution in the redness, heat and hardness, over every part of the inflammatory area, and the openings in the necrosing skin, through which the sloughing interior was now plainly visible, were merging into each other. The suppurative discharge was much increased. The patient had passed good nights, was almost free from pain, and his attendants, now thoroughly converted, entered with more zeal into the plan of treatment pursued.

August 3. The skin over the crown of the carbuncle had been removed by the necrotic process for a space of two and one-half inches in diameter, disclosing to view the superficial layer of sloughing connective tissue which was beginning to be sphacelated from the surrounding vital parts. Induration and bogginess in the outlying exudate were disappearing. At this visit it was noticed that the pulse had increased in frequency and had lost somewhat of tension and volume since the last observation. Therefore a good article of whiskey, in tablespoonful doses three times a day, was added to the treatment, and the aconite mixture stopped.

August 6. The retrogressive changes in the diseased tissues were satisfactorily advancing. The débris of sloughing connective tissue were being rapidly removed, and the ragged walls of the immense excavation which would remain were beginning to be defined. The patient's pulse had improved. His appetite was fairly good. He slept well and was absolutely free from pain. No alteration was made in the treatment.

About August 8 I was notified by the patient, through his son, that his case was progressing so very satisfactorily that he desired me to cease my attendance at his house, but that "when the place had sloughed out" he would call at my office for any further advice which might be necessary. He accordingly presented himself on August 13, fifteen days, inclusive, therefore, from the day I first saw him.

The appearance at this time afforded by the carbuncle mass forcibly eminded one of the pictorial representations of the elevations on the moon's surface to be seen through a telescope. It was a veritable extinct volcano in miniature. The crater-like cavity which excavated the centre of the raised mass was an inch or more in depth and over two inches in diameter. It was cleared of all débris, and had ragged base and walls, the irregularities of which were covered with healthy granulations. The circumferential enlargement was fast losing its congested appearance, was rapidly softening, less boggy, and was not at all tender on pressure. The pulse had almost regained its normal tension and volume, although the rate was still slightly increased. The appetite was normal, food being taken with great avidity and relish. In fact, the carbuncular process had ended, and active repair was substituted instead.

On August 12 I visited the patient at his house, and found him at work cutting wood. He had religiously kept up the treatment. He was in capita spirits, and entered the house with alacrity to be examined.

The diseased part was far advanced towards a perfect repair. The granulating base of the cavity almost coincided with the skin margin, which itself was nearly on a level with the general surface. The vital forces of the patient had returned to their accustomed norm, and there was every indication that he would be enabled soon to resume his usual avocation.

In closing these remarks I desire to add my testimony to the great value of the sulphide of calcium in all conditions where suppuration exists, or may be anticipated, as was so ably brought forward and popularized by Ringer in his interesting work on therapeutics.

The carbuncular inflammation, although not identical with that attending the formation and progress of abscesses and furuncular inflammation, is sufficiently akin to it to be favorably modified by this remedy. At all events, the experience of so careful an observer as Dr. Bulkley and that afforded by cases in which I have employed the sulphide of calcium would seem to strongly attest the value of this medicament in all forms of the carbuncular process. In the treatment, therefore, of this troublesome malady, so useful a remedy should be accorded a pre-eminent place in the category of internal medicines which may be appropriately exhibited.

ARTICLE V.

REMARKS ON THE ETIOLOGY OF ZYMOTIC DISEASES.* by M. A. RUST, M.D., Richmond, Va.

In the paper on typhoid fever which I had the pleasure of reading at our last meeting, I spoke of the bacillus typhosus with a degree of positiveness which to many of you may have appeared premature. I felt somewhat disappointed that time would not permit me to apologize and explain.

Soon afterwards, however, I perceived that no apology had been needed. In an incredibly short space of time the microbe, with irresistible fascination, has seized on the medical mind over the whole civilized world. In respect to a large class of diseases it has more completely satisfied our inborn craving for causality than any theory hitherto advanced.

No theory of importance has ever escaped the ordeal of opposition, and opponents to the germ theory are not wanting. But these are nowadays so much harangued and lectured by a full chorus of medical periodicals that nothing is left for me to say.

There is, however, a view met with in some writers which is likewise widely diffused amongst the public, that the germ theory is a new-fangled theory recently started by sundry bacteriological authorities. Some look down on it as a novelty in medical fashion—for there are fashions in medicine as in dresses—which, like many of its predecessors, is destined to be superseded by newer and more attractive fashions. This is a mistake. A theory of such import could not suddenly spring into existence, as Minerva sprang from Jupiter's head or Eve from Adam's rib. Such feats only happened in bygone days in mythology or theology; they never happen in the realm of nature.

The bacterium had to pass through all its evolutionary stages; the general level of biological knowledge had to be gradually raised; the connection between medicine and biology had to be firmly established, and, through the cogency of these and other factors, the medical mind had to find itself placed in a scientific medium fitting it to receive the pathogenic microbe.

That tribe of smallest units of life lying on the borderland of the invisible must have existed myriads of ages before man was. From the remotest times, when *death* was evolved, till this day the all-important part performed by the bacteria in the household of nature, the ceaseless bacterial activity in the metamorphosis of living matter, in the continuous transmutation of life into death and death into life, has obviously always been the same. Nature has not changed her methods.

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*Read before the Medical Society of Virginia, session of 1885.

Accordingly, Van Tieghem has demonstrated the presence of bacteria in all their stages of development in the petrified roots of certain coniferæ of the Carboniferous Age, and Zopf and Mueller have found in the tartar of the teeth of Egyptian mummies well preserved specimens of bacteria identical with lepothrix buccalis, the still existing habitual messmate of our mouths.

The first human eyes which were ever fixed on a bacterium were those of Leuwenhoek (about 1682). Leuwenhoek discovered the bacteria with the help of magnifying lenses of his own making, he himself being a manufacturer of optical instruments and a self-made scientist who, during his long life, made more discoveries in microscopical science than all his learned contemporaries taken together.

Albeit for a long time his momentous discovery of bacteria remained sterile, being rather an object of curiosity than of scientific inquiry.

About a century and a half later Ehrenberg, the father of modern microscopy, disclosed this mighty realm of littleness to the scientific world, opening a new field of microscopic research which was soon successfully trodden by hundreds of eager and genial workers.

But the keenest eye at that time did not discern the possibility of a path by which the bacteria could enter the domain of human pathology. To find the track of such a connection we must cast a glance at the fermentation theory, especially as expounded by Liebig. The morbid process of certain infectious diseases had been conceived, for some time, as a process analagous to fermentation, in which that mysterious disease-producing substance, the contagium, played the rôle of the leaven. Entering an individual susceptible to its influence, that substance was conceived to excite a fermentative process in the blood and humors of the body, like yeast when added to brewer's wort. Hence the name of zymotic disease (*zune*=ferment), by which, for several decenniums, we have been accustomed to designate a certain group of infectious diseases.

As to the nature and mode of action of this ferment, we meet with a multitude of speculations incapable of bridging over the chasm.

It was Liebig with his brilliant, fascinating fermentation theory who came to the rescue. The ferment which incites the fermentative process is albuminoid matter in a state of transformation or decomposition; brought in contact, for example, with a saccharine solution, it there produces a corresponding molecular motion, which is transmitted to the sugar, causing it to split up into a new arrangement of its elements—into alcohol, carbonic acid, etc. All vegetable or animal matter in a state of decomposition will communicate to other organic bodies containing the corresponding elements the condition of decomposition in which it is itself placed; it can reproduce itself and multiply at the expense of certain suitable constituents of the fermenting body; as, for example, the yeast multiplies at the expense of the *gluten* in the brewer's wort.

Liebig applied this theory to the zymotic diseases, explaining and elucidating, with his customary force and clearness of language, all the obscure phenomena of that pathological process which had hitherto baffled and foiled the endeavors of the most able investigators in science. This theory was generally accepted amongst men of science, and the great authority of his name kept it afloat for nearly twenty years. I need not enlarge on the details of this theory; the day was drawing near when this magnificent edifice should be entirely overthrown by the little yeast plant.

Who has discovered the yeast-plant? (*torula cerevisia*, or, more correctly, *saccharomyces cerevisia*). Its pretended fathers are numerous. Leuwenhoek again was the first (1680) who, examining with his microscope brewer's yeast, found it to consist of numberless little globules, of which he gives an accurate description; but he did not know what to make of his discovery. It was soon forgotten. Since the early part of this century, the yeast-plant has been repeatedly rediscovered by a number of observers who severally met with disbelief. Scarcely had the little torula once in a while raised her head, when she was again submerged in darkness. The mind of the scientific world was not prepared for the revelation of this truth; and, when later on it became prepared, the great authority of Liebig scared away the little being as often as it appeared in the field of view of the microscope. But with unwearied obstinacy little torula again and again appeared on the stage, and, after a long strife, was at last firmly established and universally recognized. It was, above all, Pasteur, to whom, for his labors concerning fermentation, the final triumph of the yeast-plant is due.

As late as 1870, Liebig contested the conclusiveness of Pasteur's experiments, and, although conceding the existence of the yeast-plant, maintained that it can only be regarded as a concomitant, having no real share in the fermentative process, and being in no way opposed to the physico-chemical theory.*

Sundry French authors dwell with complacency upon the defeat of the great chemist; nevertheless some beams of the luminous thought of that master-mind remain radiant to this day. "Fermentation, in the widest sense," says Naegeli†, "is effected when the vibratory motions of the molecules, atoms, and groups of atoms of the living protoplasma (the ferment) are transmitted to the fermentable substance, disturbing the equilibrium of its molecules, and causing them to break up into new arrangements."

Have we not here a spark from the extinguished fire-bush?

Whilst the strife between the adherents of the physiological and the adherents of the physico-chemical theories was going on, the medical mind had become sufficiently impregnated with the truisms of biology to draw the conclusion that if the active principle of fermentation be a *living organism, living matter must also be the contagium of the zymotic diseases;* it could not, moreover, be conceived otherwise than as living matter, since it reproduced itself in the body it entered, and since germinal power, the power of self-reproduction, is an attribute exclusively pertaining to living matter—to protoplasma.

***Annalen der Chemie und Pharmacie.*

†Theorie der Gährung. Beitrag zur Molecularpharmacie.

And here we behold our modern germ theory ready to spring into life.

Practical medicine, unaided by biology, could never have accomplished the deed; the path-finders were botanists, naturalists, biologists; their researches and experiments concerning the etiology of certain epidemic diseases of plants and insects of the grape-vine, the potato, the cabbage, the silkworm, the house-fly, the chafers, beetles, and caterpillars, disclosed in every instance, as primary cause of the disease, the action of some low form of life which had invaded the body of the stricken plant or animal. The correlation of the development and of the multiplication of that low form of life with the concomitant progress of the disease, was followed up in all the different stages, and was verified by conscientiously conducted experiments.*

And now it stood clear before the mind of the young medical generation, a generation which had been sitting at the feet of Skoda and Rokistansky, which had followed with breathless attention, and was attempting to work out the light-shedding discoveries of Schwan, Helmholtz, Darwin, Pasteur, Tyndall, etc., the generation which had done away with the Hippocratic blood impurities, with Syndenham's materia-morbifica, with the noxious humors of the humoral pathologists, with *vital force* and other mysterious forces from beyond the bounds of human knowledge—it stood clear before their minds that a contagium vivum, a living pathogenic organism analogous to those found in diseased plants and insects, must be found in diseased mammalia—man included.

And the organisms were found! Were found in abundance—in greater abundance than was good for the credit of the youthful germ theory.

Far be it from us to undervalue the labors of those pioneers of science! We have to take into consideration, on the one hand, the presence of microbes in almost every animal tissue, especially tissue in a state of dissolution or disruption, and, on the other hand, the defective methods of examination which, although continuously improving, have been only recently brought nearer to perfection by Koch.

As it is, we have to discriminate between microbes of a *questionable* and microbes of an *unquestionable* pathogenic character.

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*It will not be out of place to note here the great achievement of Pasteur (1868) in staying the plague of silkworms (called pebrine) which had been raging in France and other countries of Southern and Western Europe for fifteen consecutive years, threatening to plunge many of the richest provinces into poverty. It entailed on France, in a single year, a loss of 100,000,000 francs. The disease is both infectious and hereditary—the sexual organs of the male butterfly, as well as the eggs laid by the female, containing the disease germs. The germs develop with the evolution of the egg and grow with the worms. But there is, even with the most powerful microscope, no possibility of distinguishing healthy from diseased eggs.

The successful prophylactic treatment, as initiated by Pasteur, consists in confining each couple of butterflies separately in a small cell. The whole short life of such a couple is a continuous nuptial festivity, after which, when the eggs are laid, the female dies, quickly followed by the male. In methodical succession both parents are now microscopically examined. (In a small silk district in Austria two and one-half millions of butterflies were in one season subjected to such an examination.) If pathogenic germs are found in either parent, all the eggs in the cell whence those parents came are destroyed. If the parents prove sound the eggs are kept for breeding next season.

By this method the ruinous plague has been nearly rooted out.

Foremost in this last category stands *bacillus anthracis*, the pathogenic organism of Milzbrand or splenic fever. There is no disease with its concomitant microbe amongst mammalia which has been so thoroughly investigated, and has rewarded the investigators with such splendid results, as splenic fever and its pathogenic bacillus. From Polander (1855) who first discovered the bacillus anthracis, down to Koch, who crowns the edifice, a long series of illustrious scientists* have by patient and intelligent observations, by ingenious experiments on living animals, studied the life history of bacillus anthracis and its physiological action in the body of its host in all its stages and phases. We will note that these experimental studies, resulting in the revelation of invaluable scientific truths, have been carried on in Germany and France—countries where the idiotic wail of anti-vivisectionists, as yet, has found no listeners.

Besides the well-known microbes of certain skin diseases,† which generally produce but local effects, we possess a more or less complete knowledge of—

Micrococcus septicus in pyæmia and septicæmia, studied by Klebs‡ (1870–72). The same chain-like micrococcus, modified in its physiological action by the medium in which it multiplies, is probably the causative agency of puerperal fever.

Bacillus Tuberculosis, discovered by Koch.

Comma Bacillus in cholera Asiatica, recently discovered by Koch.

Spirochaete Obermeyeri in relapsing fever, discovered by Obermeyer, 1868.

Bacillus Malariæ in intermittent fever, discovered by Klebs and Tomaso-Crudelli, 1879–80.

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*Brauell, Davaine, Pasteur, Klebs, Tiegel, Cohn, Eberth, etc.

†Anchorion Schoenleini, in favus; trychophyton tonsurans, in herpes tonsurans and sycosis; microsporan furfur, in pityriasis versicolor; odium albicans, in aphthæ.

‡Klebs, Beitraege zur pathologischen Anatomie der Schusswunden, Leipzig, 1872.

The morphology and life-history of *micrococcus septicus* is but imperfectly known; but its mode of propagation and its effects on the organism have been unfolded and elucidated by the exhaustive researches of Klebs.

The micrococci were invariably found by Klebs in the section of wounds, scanty in laudable pus, redundant in malignant (ichorous) pus. Klebs followed their invasion of the various tissues, where they produce inflammation and suppuration; their entrance into the blood-vessels, where they adhere to the walls of the vessels or generate obstructing thrombi, or are carried forward with the stream of the circulation, and pitch their tents at some distance from the wound, mostly behind the venous valves, where the stream runs more slowly. There they cause irritation, inflammation, formation of thrombi, and sometimes suppuration. The thrombi are found teeming with micrococci which cause the final disruption of the thrombus. If such thrombi are carried to the extremity of an artery, they produce an *infarctus*, in which the micrococci multiply and cause suppuration and disruption of the infarctus (metastasic abscesses). If the artery into which the thrombus is thrown inoculates freely, no infarctus is formed, but the micrococci, held by the thrombus, invade the surrounding tissue and again produce inflammation and suppuration. Micrococci circulating in the capillary vessels likewise invade the surrounding tissue without generating thrombi. "Metastastic" abscesses are again the result of this invasion.

The invading organisms and the anatomo-pathological results of such invasion were always the same, whether the disease in its invariable course had been called pyæmia or septicæmia.

Bacillus Typhosus in typhus and typhoid fever, studied by Eberth,* 1882–83.

Time will not permit me to enlarge this summary. We have, moreover, to add to this category a long list of diseases in which a specific pathogenic microbe has been described by a single or only a few observers, and called in question by many others—*i. e.*, the unsettled microbes of pneumonia, cretinism, goître, etc.—and a third equally long list of diseases in which we are, by analogy and induction, constrained to admit the presence of a specific pathogenic microbe, although the evidence of its presence has not as yet been unquestionably established—*i. e.*, measles, scarlatina, diphtheria, erysipelas, yellow fever, etc.

For those who deny all practical value to this direction of medical thought, we will again point to the stay of the silkworm plague, which has saved to the silk-producing countries hundreds of millions of dollars, and to antiseptic surgery, which has saved, and continues to save annually, thousands of human lives.

In this connection I will emphasize that it was not Lister the surgeon, but Lister the scientist, Lister the naturalist, who, approaching Nature with weighty queries, said to himself: "If all the calamities which befall a wound proceed from certain organisms which enter the wound from without, may I not avert the evil by shielding the wound against their entrance?"

He did it, and he saw that it was good! And the whole scientific medical world saw that it was good.

Casting our eyes over the advances made in the last decennium, we may feel assured that the uncertainties and obscurities in the causal relations between microbe and disease will soon be elucidated, and then we shall either have to drop the term "zymotic," or extend it over a much larger group of diseases.

After this, however, there still remain three perplexing questions.

The first is: *Whence come these numerous species of pathogenic microbes?* Where stand their cradles?

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* Although the identity of bacillus typhosus has not as yet been fully established, still one may place reliance in the observations of its foster parent, Professor Eberth. Sundry investigators have found in typhoid fever, at various times, no less than *seven* varieties of microbes. Post-mortem examinations of typhoid fever subjects always reveal a variety of microbes. These varieties, according to Eberth, are met with in the advanced stages of fully developed, malignant cases of typhoid fever, where ulceration, decubitus, sphacelus, pneumonia, affections of the pharynx, etc., had taken place. The microbes which in such cases present themselves are: bacteria of putrefaction; micrococci of septicæmia, of diphtheria, of erysipelas, and other varieties of micrococci which have entered the diseased organism, and stand in no causal relation to the typhoid process.

"To get a sight of bacillus typhosus," says Eberth, "one must have—which does not often occur—a post-mortem of individuals carried off in the earlier stages of the disease, not later than in the third week. The bacilli are then found in great numbers in the small intestines, in the lymphatic glands of the ileo-coecal region, in the spleen." They present, according to Eberth, the aspect of short, plump rods, rounded at both ends. In no case of other diseases complicated with swelling and ulceration of the intestinal mucosa and of the follicles (measles, scarlatina, intestinal tuberculosis, dysentery, etc.) has Eberth found these specific bacilli.

There are abundant proofs that in typhoid fever the intestinal affection, be it ever so slight, is primary. In the absence of any swelling of the mesenteric glands, one finds the bacilli of typhoid fever settled in the intestines. There they multiply, thence pass into the mesenteric glands, whence they enter the circulation and accumulate in the spleen.

By our predecessors the original seat of the noxious disease-producing substances was located in the *air* we inhale and in the *water* we drink, and this view, more or less modified, remained current till our days. But the idea of miasms, or poisons, or germs, held in suspense by the air of a *particular* locality, instantly collapses in face of the fact that atmospheric air moves over the surface of the earth with an average velocity of about eleven feet per second, and that even still air, whose motion our tactile sense is unable to feel, travels at the rate of about twenty inches per second. Hence, any substance present in the air of a given locality must have its source in the soil below, or emanate from an object in the soil, whence it is continually renewed or replaced.

Living or running water, like air, purifies itself constantly. Organic impurities, germs, etc., which have found their way into water-courses, will not travel far before they are destroyed by dilution, friction, and other agencies.* We in Richmond need not be in the least uneasy about what the Lynchburger or the denizen of any place a determinable number of miles above Richmond may deposit in the James. It does not reach us. †

Well-water is surface water. What it contains in solution or suspension is derived from the surrounding soil. It cannot purify itself like river-water, and is pure only when the surrounding soil is uncontaminated. It is generally admitted, and proofs are not wanting, that the soil from the surface down to a considerable depth is the habitat of the bacteria, whence they rise in the form of microscopic dust. In the germ-laden dust which may arise from the streets of our over-filled cities does not lie so great a danger as in the dust which arises from the soil beneath our crowded, unventilated houses, as the smoke from the hearth is drawn up into the chimney. No amount of sanitary measures hitherto devised will save a crowded city from dying out in two or three generations, unless constantly filled up by immigration, so long as the modern architect is allowed full sway.

The common saprophytic bacteria must have existed since the development of organic life, whilst most of the species of our present pathogenic microbes must have come into being at much later periods. We certainly cannot suppose, *i. e.*, the bacillus typhosus, for instance, to have accompanied our hairy ancestors when they roamed the wilderness in small herds; likewise we shall not be far from the mark when we assume a causal relation between the evolution of the modern architect and the development of the bacillus typhosus.

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* Petenkofer adduces the example of the river Trent in England, which, during its short course to Nottingham, receives the refuse of over two millions of men who live on its shores, the quantity of refuse amounting at least to two millions of litres per day. Nevertheless, before reaching Nottingham the water of the same river has again become clear and pure.

Likewise, before the laws against the pollution of water-courses had been enacted, the river Seine at Paris, at the point where it was entered by the canal of Clichy, was almost black; no fish could live in it. Nevertheless, a few miles below Paris, at Meulan, every trace of impurity had disappeared.

† It is understood that the healthiness or unhealthiness of such waters will not only depend upon the *distance* they have traversed, but more decidedly upon the magnitude of the body of water and upon the quantity of refuse which finds its way into it.

We must also admit that sundry species of the present pathogenic microbes were, and are still, sown into the soil by human filth. There is, furthermore, a widely accepted view, sustained by the authority of Nageli, that bacteria, in the course of generations, and by propagating in different media, vary morphologically and physiologically, and that we may consider all existing pathogenic microbes as descendants of the saprophytic bacteria, the bacteria of putrefaction.

Nageli holds that those pathogenic microbes are the most vigorous or the most virulent which have a far-reaching pedigree of virulent ancestors, who have at no time had to struggle for a living outside the human body, but have passed, generation after generation, immediately from one human organism to another—a bacterial aristocracy, forsooth!

On the contrary, it has been maintained, and to a certain extent experimentally demonstrated, that by culture in an appropriate medium outside the human body, the most virulent microbes may be gradually subdued and reformed into innocent beings.

Buchner maintains that by a series of cultures (which, however, Koch and others do not regard as conclusive), he has succeeded in transferring the virulent bacillus of splenic fever into the inoffensive hay bacillus; and vice versa, the hay bacillus into the bacillus anthracis.

Not more conclusive seems to be the assertion of Rosenberger that, under certain conditions, specific microbes are evolved from the non-specific bacteria which are always present in the tissues of our bodies.

Wigand's discovery of the "anamorphosis" of the protoplasma, that is to say, the property of certain structural elements of protoplasm in a state of disruption to turn into new units of life, into bacteria, also waits confirmation.

The second question is: *How does the morbid process in bacterial or infectious diseases ever come to a happy end?* How is it, considering the ubiquity and tenacity of the microbe, that every living creature is not attacked, nay, that the whole human race has not been exterminated by them?

In reviewing the evolutionary history of the healing art, from the time when the anger of a God was the sole cause of every disease, and assuagement of his wrath the only remedy, until the elevation of that gigantic and complex edifice which we call *modern medicine*, we obtain a great variety of answers from which to select. In modern times the healing power of *nature* has come into the foreground, but, as far as infectious diseases are concerned, no insight into the *modus operandi* of "natura medicatrix" has been gained. By the pretentious term, "self-limitation of disease," one X was replaced by another X.

Since the development of the germ theory we have gradually arrived at the perception that we have (as already explained in my paper on typhoid fever) to reckon with two factors, viz.: the resisting power of the living cells, constituting our organism, and the quality and quantity, *i. e.*, the degree of virulence and the numbers of the invading pathogenic microbes. Nageli was the first who laid stress on the *numbers*. In fact, what would happen in crowded cities, if a *few* microbes could generate the disease? What would happen to the doctors who are exposed to their onslaught daily and hourly?

Infection or immunity, abortion or fully developed form of the disease, recovery or fatal end, are the resultants of correlation between cellular resisting power and the intensity and numerosity of the invading pathogenic microbes.

However satisfactory this explanation at first seemed to be, there still remains an obscure point. How shall we physiologically conceive this cellular resisting power, or, to use the favorite figurative expression of warfare, with what weapon do the cells of the organism repel the onslaught of the invaders? Disheartened, we have again to admit that we are still in the dark.

Perceiving in the misty distance a gleam of light, towards it we bend our steps, ready, as we always are in science, to retrace them, should that luminous ray prove to be a jack o' lantern.

The *white corpuscles*, *leucocytes*, or *migratory cells*, which circulate in our blood, are to be met with in every individual in the whole animal kingdom. They constitute the blood of the white-blooded animals, and lower down in the scale of beings, where there is no vascular system, they are present in the tissues or stroll about in the cavity of the body. They play an important rôle in all inflammatory processes. They present the aspect of a minute speck of jelly, this speck of jelly being endowed with the highest vitality. These migratory cells are identical with the *amœba* which is to be found in all stagnant waters, ponds, ditches, etc. We may behold in these simplest and oldest forms of life (a form still retained in the human ovum) our earliest progenitors of primordial times, when they lived in the Laurentinian Sea, their paradisian life—a life without enemies, a life without nerves, without hunger, and without love.

The amœba is one of the most interesting objects to bring under the microscope. During a few minutes' observation we see it extend longitudinally, contract more and more in the centre-line, and finally separate; so that we behold two amœbæ in the place of one. After a while, each of the two repeats the same play, and the play may go on forever.

Which is the mother and which is the daughter? Dr. Augustus Weissman was the first to ask this pertinent question, though it must have forced itself upon the mind of every observer. "There is no mother and no daughter," says Weissman; "and as not an atom of matter is lost in the process, there can be no death."

In fact, we have to consider these little beings as immortal, in the sense that, if not destroyed by outside forces, they live endlessly; death with them is not an inherent attribute. Their existence, through countless ages, extends to a period of our planet's life-history when that physiological phenomenon which we call *death* did not manifest itself. Only in a much later period, when various groups of simple cells had united to build up the multi-cellular organisms, could death be evolved in these complex organisms, through adaptation to environments, and be hereditarily transmitted.

These immortal beings, as we easily observe under the microscope, eat; they eat constantly. We cannot call it hunger that makes them eat; they stretch their pseudopodes over every speck of matter which impinges upon them, and what cannot be digested is eliminated.

If the bit grasped happens to be so big that the amœba cannot master it, one often sees two or more amœbæ fuse together, forming the so-called giant-cells, or the *plasmodium*, observable in all inflammatory processes.

In the human, as well as in all other multi-cellular organisms, these leucocytes have, by division of labor, assumed the mission of eating up all foreign bodies, heterogeneous and waste matter. They constitute, as it were, the police force of the organization.

These interesting beings, of whose life-history a meagre fragment has just been given, have formed for several years the object of the researches of Professor Elias Metschnikoff, of Odessa. He first undertook these studies to elucidate the all-important rôle which the leucocytes play in the inflammatory processes. He could only make his experiments on such animals as asteridæ, especially bipinariæ, etc., which are of such exquisite transparency that all occurrences inside the living animal can be accurately observed from without.

These animals abound in the Mediterranean. Thither, to the coasts of Italy, Metschnikoff bends his steps every summer. Inserting into the integuments of the live animals all sorts of minute matter, vegetable, animal, coloring matter, extremely fine thorns, etc., he can observe the leucocytes (to which he has given the name of phagocytes, or eating cells) collecting round the foreign matter, eating it up and ejecting what they cannot digest.

A summary of the conclusions to which Metschnikoff has arrived in regard to the inflammatory processes does not lie within the scope of the present paper; suffice to note that he considers the phenomenon of inflammation observed in these lower animals analogous to those in the vertebrata, with the exception that here in the lower animals no vascular system is brought into play.

Since we have lost faith in the healing virtues of salves and lotions, the restlessness of our minds has been somewhat relieved by the imposing word *self-limitation.* Metschnikoff brings us nearer to an understanding by regarding the process of inflammation as a peculiar kind of *intercellular* digestion.

Metschnikoff, moreover, put to himself the question, If these leucytes (phagocytes or eating cells) eat up all heterogeneous matter in the organism, would they not likewise eat up intrusive microbes ?

Some facts already known pointed to an affirmative answer.

Microbes or bacilli, partly in their integrity, partly dissolved into minute granules, had been seen by some observers in the tissue of leucocytes, and the explanation given was that these leucocytes had been invaded by the microbes. Metschnikoff, however, perceived in those observations the evidence of a microbic repast taken by the leucocytes, and laboratory experiments showed that leucocytes in a test glass *did* eat microbes.

Metschnikoff, moreover, was the first to observe an infectious disease raging among watar-fleas. These charming brachiopodes, living in all stagnant waters, present to the observer a perfectly transparent body. The observed disease is produced by microscopical, needle-shaped spores of fungi which the water-fleas get into their intestinal canals by eating up the corpses of their fellow fleas which died from the same disease. They get their intestinal canal filled with these spores, which soon perforate the intestine in order to reach the abdominal cavity. At this juncture Metschnikoff could invariably observe the leucocytes circulating in the abdominal cavity, collect round the spores, and eat them up as soon as they appeared. The water-flea recovers, unless the spores are proportionally in overwhelming numbers; in this case the spores which escape the attacks of the leucocytes pass into the cavity, germinate, and invade all the tissues of the body; and the water-flea perishes.

Cold-blooded animals possess immunity against splenic fever. Infection with the most virulent bacillus anthracis does not take effect on the frog; that is to say, according to Metschnikoff, the bacilli of splenic fever, upon entering the body of the frog, are forthwith eaten up by the leucocytes, and are often to be found in the form of fine spiral threads in the leucocytes taken from the same frog's body. In the mammalia the bacilli of splenic fever are not eaten by the leucocytes. Rabbits inoculated with the same virus invariably perish; their corpses swarm with bacilli; but none are to be found in the leucocytes, though these latter have retained their full vitality. If, however, the rabbits were inoculated with bacilli cultivated in chicken-broth, the bacilli were all eaten up.

Metschnikoff's researches are not yet completed, but they are full of hope and promise. If the observations already made should be fully confirmed, the dense cloud in which "vital resistance," or cellular resisting power, is shrouded will be rent asunder; we shall not have to stretch our imaginative powers to conceive the whole community of cells on the warpath; there will be a detailed force of phagocytes to do the fighting; the whole impenetrable mystery of cellular resisting power will have resolved itself into a tangible, prosaic eating power; and we shall only have to find the means to weaken the microbe, or to enhance the strength and the numbers of the eating cells.

The third question is, *How is immunity effected through vaccination?*

Not so often as current anecdotes would have us believe, does chance play the prominent part in scientific discoveries; they generally are, and can only be, the outcome of strenuous brain-work. Amongst such anecdotical fallacies we may range, for example, the tale of Newton and the falling apple. Jenner's discovery, however, *was* a chance discovery, though we are deeply indebted to the mind which understandingly grasped and made subservient to humanity what chance had offered. This great discovery, which will ever entitle Jenner to be regarded as a benefactor of humanity, did not rest on any scientific principle. It unfolded a phenomenon of the greatest consequence, which stands isolated to this day; to this day we do not know what is the physiological action of the speck of matter inserted under the epidermis nor how the end result, immunity, is brought about; to this day we perform the operation of vaccination blindfolded, as we have done for nearly a century.

Attempts to solve the riddle have not been wanting, and there are numbers of untenable theories in the field, upon which I was preparing to descant when I saw in the London *Lancet*, June, 1885, the exhaustive and sagacious critique of these theories by Dr. Sternberg, U. S. A. I cannot say anything better to the purpose, and will here simply refer to Dr. Sternberg's article.

In his explanation of immunity Dr. Sternberg rightly assigns the first rank to a vital resistance; but the causative relation of vaccination to immunity remains unexplained. "Vital resistance," "cellular resisting power," are, in respect to our question, only names, though the best which can be devised, for recondite occurrences which elude the mental grasp. Hopefully and longingly we raise our eyes to Metschnikoff's phagocytes.

Minds prone to speculation might, even at this early hour, advance the following theory: that the first meal of microbes eaten by the phagocytes may prove so acceptable and stimulating that in future they will always be ready to consume any reasonable number of the same kind of microbes that may present themselves, and this theory would rest on foundations possibly more solid than those of any other theory concerning vaccination as yet in the field.

In our endeavors to penetrate the mysteries of life, we proceed from the known to the unknown, from the seen to the unseen, from the observed to the unobserved, from induction to induction, and in this mental process ideas arise which by necessity of thought we postulate as causative entities. On ideas so gained the greatest part of our knowledge of the universe securely rests. Sometimes an idea of this order luminously arises and drops back into the shade; at rarer times we see with proud satisfaction (as we have seen with the pathogenic organisms) the "*it must be*" followed by "*it is*." To such necessities of thought, even the most sober, the most sceptical mind must yield; it was this necessity of thought which forced from Voltaire the exclamation, "Si Dieu n'existerait pas, il faudrait l'inventer!" ("If God did not exist, we should be obliged to invent him!")

I must apologize for having so long indulged in theories. The exposition of these theories was intended to form the basis in which to rest the practical remarks I had to make. But I could not present both theory and practical application without transgressing all limits of space and time.

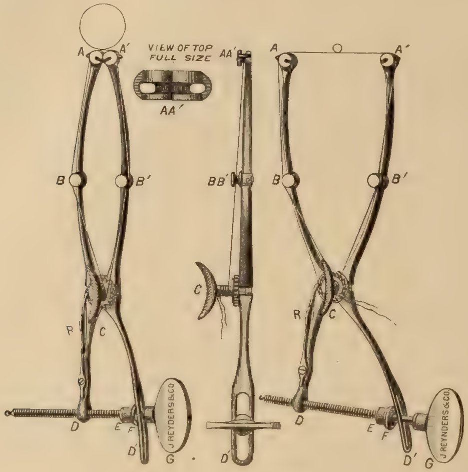
I propose to lay such practical remark before you at our next meeting, provided the community of cells constituting my body holds together another year, and provided you are disposed to listen to me with the same forbearance and kindness next year as you have done to-day, for which I beg you to accept my heartiest thanks.

RICHMOND, VA., September, 1885.

ARTICLE VI.

A TRUE SERRE-NŒUD: AN INSTRUMENT FOR TIGHTENING A KNOT CONTINUOUSLY.*

By F. Forné, M.D., Staff-Surgeon of the French Navy.



REFERENCES.

AA′—Rings through which are passed the free ends of a pliable ligature (string, thread, wire, etc.), previously placed around the tissues to be enclosed, as a loop, or as a single knot.

BB′—Grooved circular blocks for the separation and hiding of the pliable ligature.

C—*Cleat-Windlass* for belaying and winding up the ends of the ligature (a new name has been coined to express the double function of a new mechanical device).

D—Screw-nut arm.

D′—Fenestrated arm, separated from or approximated to the screw-nut arm by working the key-headed screw, *GE*.

E—Fixed bulge separating the screw part from the smooth portion of the key-headed screw, and serving as a support for the movable disk *F*.

F—Movable disk upon the smooth part of the key-headed screw. This disk is pressed between the fixed bulge *E*, and the internal edges of the fenestrated arm *D′*. When one arm is being separated from the other it serves for lessening the friction against the internal edges of the fenestra.

G—Key-head of the screw, the lower part of which presses against the external edges of the fenestrated arm *D′*, when the arms of the instrument are being approximated.

R—Spring-catch fixed with a screw to branch bearing screw-nut pressing in the form of a click into the cogs of a ratchet wheel.

REMARKS UPON A TRUE SERRE-NŒUD.

Although it seems difficult to confound a loop with a knot, both surgeons and manufacturers of surgical instruments have applied the name of *serre-nœud* to instruments acting simply on the free ends of a loop. This is the case with the sham serre-nœud of Levret, of Desault, of Charrière, of Broca, of Ricord, of Kœberle, of Cintrat, of Wilde, and others. None of these instruments tightens a knot.

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*Presented by the author at a meeting of the New York County Medical Association, held October 19, 1885.

DIRECTIONS FOR USING.

A tumor, or any portion of tissue that can be so isolated, is surrounded by the loop of a pliable ligature, the ends of which—crossed and passed one above the other—are pulled in opposite ways so as to form a single knot. This is the knot which is to be tightened.

To gain this result we first pass the ends of the knot through the rings *AA′*, then over the grooved circular blocks *BB′*, and belay them to the cleat-windlass *C*. That fastening is performed in the following manner: The ends of the knot are brought together at the right side of the neck of the cleat-windlass, around which they are rolled once or twice, after which we wind the ends back and forth, figure-of-8 fashion, around the two arms of the cleat and fix them by half an inverted hitch.

The instrument is then fitted and ready for producing the effect desired. To operate it it is sufficient to turn the keyed screw in the direction of the hands of a watch, from left to right, a movement which results in removing one blade from the other, and consequently in tightening the knot.

It will be observed that the first effect of turning the keyed screw is to increase the curvature of the arms of the instrument, which, like strung bows, tend constantly to straighten, and consequently create a continuous traction upon the opposite ends of the knot.

When the pedicle which is to be constricted is of considerable size, a single movement for removing one blade from the other to the fullest extent is insufficient to produce the necessary constriction. In this case we must bring the arms back into contact by renewing the turning of the keyed screw; that is to to say, by turning the key in a manner opposite to the movement of the hands of a watch, from right to left. This movement having slackened the ends of the constricting ligature, they are to be tightened again by turning the cleat-windlass. This manœuvre has the effect of winding up the portion slackened.

These manipulations of the keyed screw and of the cleat-windlass are renewed as many times as it is found necessary to attain the desired result; whether simply temporary constriction or the ligation of tissues for the purpose for removal.

The single knot, instead of being made upon the tumor, as has just been described, can also be made and fastened in advance upon the instrument. In this procedure, it suffices to pass the tumor through the constricting ring and then to give several turns to the cleat-windlass to make the serre-nœud ready for use.

It should also be observed that the single knot, instead of being arranged to be horizontal, that is to say, on the same plane as the arms of the instrument, in the manner described above, can be arranged so as to be vertical; that is to say, on a plane perpendicular to the plane of the arms. In this case, the ends of the knot, instead of being passed through the rings, are introduced through the tunnelled passage opening on one side, at the centre of the anterior surface, and, on the other, at the inferior surface of the terminal ends of the instrument.

Finally, this true *serre-nœud* will act on the free ends of a loop just as well as the false *serre-nœuds;* and it will, therefore, probably replace most of the latter.

NEW YORK, October 19, 1885.

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ORIGINAL TRANSLATIONS.

DELUSION OF PERSECUTION. A Clinical Lecture Delivered at the Hospice de la Salpètriére, by M. LEGRAND DU SAULLE, and Reported by G. CRESPIN, Interne des Hôpitaux. Translated from the *Union Médicale* by H. McS. GAMBLE, M.D., Moorfield, West Va.

The disease once well recognized, what ought to be the conduct of the physician; in other words, what course of treatment is it proper to pursue towards the persecuted? You know already that about twenty per cent. of the subjects of persecution are cured; whilst, in a general way, the insane recover in the proportion of forty per cent. This tells you that therapeutics have very little influence over the delusion of persecution; however, I am convinced that if physicians and families would consent to abandon all the traditional errors, we might rapidly succeed in attaining a very much higher average of cures.

When you shall have to treat one of these insane persons, do not permit yourself to be influenced by the false notions prevailing in the world. You will hear it said every moment, If this patient has delirium, it is because he is suffering from congestion; then he must be depleted. And then the food must be restricted, purgatives freely used, tonics and excitants interdicted, bleeding and blisters prescribed. In acting thus you will satisfy the prejudices of the family; but follow your patient, and you will soon see his strength diminished and his insane ideas become more and more violent. I can tell you in all certainty that the debilitating method very rapidly renders the disease incurable, and frequently occasions death.

There is another system which likewise enjoys a very great favor. When a patient presents very marked phenomena of excitation, when he commences to experience a veritable perversion of the sentiments of affection, or when he is impelled to impulsive movements of a character dangerous to those around him, the advice generally is to prescribe hydrotherapy. But if hydrotherapeutics gives sometimes good results, it often happens, on the contrary, that douches only exasperate the patient and render him more irritable and more violent, which may entail the most disastrous consequences for himself and for others. You will therefore not employ this medication, gentlemen. I have sometimes seen tartar emetic give very satisfactory results when it is administered for two or three weeks in the dose of thirty to fifty centigrammes every other day, or when it is given every day in small doses; these two modes of administration enjoy a great reputation in Germany. Doubtless the emetic may sometimes accomplish surprising cures; but I advise you, however, to employ it in only a few special cases, for this medicament may determine adynamia, diarrhœa, fears of poisoning. Some physicians wish to combat the ideas of persecution by reasoning. They argue with the patient, bring him the testimony of sincere friends, letters, certificates to demonstrate to him the groundlessness of his fears; but then the persécuté, not being able to doubt the evidence of the papers which are presented to him, will not hesitate to say to the physician: "I know you now; you have an understanding with them; you will end badly." Never argue with an insane person. I will mention to you, only by way of recalling it to your memory, that fantastic therapeutic measure of unprofessional people, which consists in saying, that by determining strong moral shocks a cure may be obtained. For you, gentlemen, will know how to appreciate the difficulties of the situation in the cases which you will have to treat. There is no general rule to formulate; it is all a question of kind. I will simply mention here the indispensable necessity at a given time to remove the patient from the surroundings in which he happens to be; for him a regular life, artistic occupations, music, walks and journeys will be the best means of cure. But to leave the patient alone and unoccupied, given up to idleness and entirely to his fears, is to continue the aberrations of the past, and consequently to aggravate the evil.

In the course of our preceding lectures I have spoken to you, in passing, about the writings of those persons possessed with the ideas of persecution. I wish to-day to return to this question, and to talk to you about wills made by these patients, for you may be called upon to give your opinion upon the mental condition of such or such an individual in relation to a letter or a will, and it is well for you to have precise notions upon what is most commonly observed. I will complete this study by speaking to you of the responsibility of the insane person before the law, and of the sequestration of the patient, and the few medico-legal considerations which I shall bring before you, will, I think, be of great use to you.

The writings of the persécuté have such special characteristics that they sometimes of themselves enable us to make a diagnosis. You understand what an aid the alienist may derive from them in the medico-legal examination of experts, since he must, in certain cases, lay down conclusions *post mortem.* As I have told you, many of the insane (persécutés) write to the prefect of police and to the chief of State to claim their protection against the enemies who torment them unceasingly, and their letters are but the expression of the strange language with which you are familiar. It even happens quite often that an insane idea is exposed in a letter with less reserve and more clearness; but sometimes the writing may also completely lead into error by disguising the real condition, thanks to an accomplished dissimulation on the part of the insane person. Many times has the reading of the writings of those affected with the delusion of persecution contributed towards putting me in the way of a diagnosis. Thus, I recall to mind having attended a man who, it was pretended, had an attack of the *spleen*; this man, sombre and taciturn, refused to give me any information. One day, when he was sitting upon a bench in a garden, he began to design upon the sand, with his cane, the word, *treason*. Put upon guard by this single word, I had his papers searched, and I found a package bearing this title: *My conversations with the unknown.* This was a revelation to me; I was convinced, on reading the few pages written by the hand of the patient, that I had to deal with a subject of persecution, presenting hallucinations of hearing and notions of suicide.

The victim of this form of insanity draws up complaints, accuses and defames such and such an one, and, when he is about to become a persecutor, warns his victim of his projects of vengeance. He writes interminable stories, insists complacently upon the habits and acts of his enemies, and enters into the most minute details upon all that concerns them. Is he a hypochondriac, he takes observations day by day, hour by hour, and analyzes all his sensations. One might say that in writing, he listens to himself raving. The examination of the letters shows you the moment when the patient grows weak intellectually, and falls into madness; for the letters, instead of being precise, as in the past, become insignificant and incoherrent. One of the most celebrated of this class of patients, Berbiguier, published his autobiography in 1821, under this title: *The Hobgoblins: or all the devils do not belong to the other world.* In this work, which he dedicates to the emperors and sovereigns of the four quarters of the globe, he describes with the greatest care the hallucinations of hearing that he experiences, and relates that he cannot pass the night in his chamber, and that he only takes nourishment when the most pressing necessity obliges him to do so. He believes himself pursued by the *goblins*, Satan's representatives upon earth, and, weighed down by sufferings, he wishes to take his own life; but a *voice* arrests him at the moment when he is about to kill himself, and Jesus Christ appears to him upon a throne. Berbiguier believes that the goblins exercise their power upon him by means of astronomy and electric machinery placed in the clouds. It is the goblins who cause bad weather; it is they who smother and strangle persons who die suddenly. One day Berbiguier goes to the theatre to see the "Melodrama of *la Pie Voleuse*" represented, and he describes the impressions he experienced, adding that "the unfortunate servant of Palaiseau is a much to be pitied victim of the wickedness of the goblins." He ends his book with imprecations against his implacable enemies, of whom he hopes to be rid some day, for he counts upon the immense effect that the publication of his three volumes is going to have upon the emperors, kings, and sovereigns.

Such writings, gentlemen, will permit you easily to recognize what kind of madness you have to deal with, even if you have never seen the patient, for they contain the clinical picture of delusion of persecutions traced by the insane person himself with the greatest exactness. Of all the writings of this class of insane (persécutés), wills are the most important and the most useful to understand, for you will often be obliged to give your opinion upon the value of such or such an act, in questions relating to inheritance. It is rare that a persécuté dies without leaving a will indicating his last wishes and containing denunciations against such or such a person. He does not wish to die without calling down upon his enemies all the maledictions of heaven. Orders are given to have his autopsy made; the hour of the funeral ceremony is arranged; the route of the procession is all laid out. Most frequently he disinherits his relatives, and this is readily accounted for. Being generally on bad terms with his relatives, he does not wish that his death shall enrich people who have injured him all his life, who have calumniated and abused him, who have drawn him into snares, or who have sought to poison him. And then you see this man bequeath his fortune to a city, to a hospital, to the poor, to some one he has never seen, or he even founds prizes. It is sad, in truth, to tell, but the greater part of philanthropists on the other side of the grave, who make legacies to hospitals and academies, are often but the insane subjects of imaginary persecutions. Egotists and misers during their lives, they pass for benefactors of humanity after their death! Far from me the idea of pretending that these liberalities in favor of hospitals are always the unconscious expression of intellectual troubles, but truth compels me to testify that very often, in these cases, the mental state of the testator left much to be desired.

The victim of imaginary persecutions who draws up a will believes himself bound to justify the legality of his dispositions. He enumerates all the hostilities to which he has been subjected, and sometimes annexes to his will memorials addressed to the judicial authority in which the most infamous charges are made.

You recall to mind, gentlemen, the ex-cook Labouche, who assassinated his intimate friend, the hotel-keeper of the *Grand Monarque*, at Melun, and who afterwards found the means to hang himself during my service at Bicêtre. This man left two wills, indicating two successive phases of his insanity. In his first will, after having commended himself to the Holy Virgin and to God, he declares that he gives his personal property to his friend, Constant M.——of the *Grand Monarque, upon the condition of his having the last sacraments administered unto him.* He left 1,000 francs to the curate of Melun, and 500 francs to the poor. In his second will he left nothing to his friend of the *Grande Monarque*, who had begun to be suspected by him. He then addressed to the imperial procureur a list of all his relatives and of all the persons who had joined *the band of Cains and Vidocqs* for the purpose of persecuting him.

Another example: A military surgeon stopped one day in a provincial town where he knew no one, asked for a chamber in a hotel and had writing material brought to him. The next day he was found bathed in his blood; he had cut his throat with a razor. He had left upon the table a will in which he said that his regiment drenched him with insults, and that he was accused of being *a canaille, a syphilitic, a gulper of mercurial pills.* "My two brothers," he added, "make common cause with the regiment; therefore they shall not have a sou, for I give my money to the physician who shall be required by the authorities to prove my death, upon condition that he make my autopsy and show that he send a written statement of what he has seen to the colonel of the regiment, in order to show that I was not a syphilitic." The event caused a certain stir; the physician accepted the legacy in favor of the hospital. I do not know what judicial solution the affair received.

A few years ago, there died at Paris Pierre M——, landlord. He bequeathed the half of his fortune to the hospital Quinze-Vingts, and the other half to the blind living in Paris. All the details of his interment were arranged: he desired that all the blind should follow the hearse, drawn by four horses. This is the man who, two years before, had sent a notice to the *Constitutionnel* to warn the individuals who were pursuing him of evenings, that a complaint had been lodged before the prefecture of police, and that every measure had been taken to baffle their designs. M. Baillarger, instructed to make a report upon the condition of this patient, concluded that Pierre M—— was not of sound mind, and the will was set aside.

The repertory of jurisprudence contains a large number of wills analogous to those I have just cited to you, bearing the stamp of delusion of persecution; and, in the majority of cases, I must say, the magistrates have adopted the conclusions of science.

The physician is not only consulted to know whether the testator was of sound mind, as the law requires, when he has written his will; it is so, likewise, when a crime has been committed, in order to ascertain whether the assassin is responsible. But nothing is often more difficult than to appreciate the degree of responsibility of a person afflicted with the form of insanity we have been considering. It is certainly unnecessary, gentlemen, to make a show of an exaggerated clemency: nevertheless, I think that we ought not to admit without reserve Casper's ideas upon this question. Casper considers, in fact, as responsible, all monomaniacs who have committed a crime, whether they have acted or not under the influence of their fixed idea. The German physician is without doubt deceived, for in criminal matters everything is a question of kind. If, for example, a persécuté possessing the soundest views of social duties commits a crime, outside of his habitual aberrations, we do not hesitate to say that there may be discernment on the part of the assassin. If, on the contrary, this man, under the influence of a fixed idea, obeys an impulse which drives him to kill one whom he considers as his enemy, we do not hesitate to recognize the absence of responsibility. The medico-legal practitioner ought, then, by the most minute examination, to inquire whether the patient enjoyed his moral liberty in whole or only in part. I know that certain alienists consider partial responsibility as an impossibility; for my part, I believe that the insanity is sometimes so circumscribed that there may be complete absence of reason, relative to certain objects, without as far as others are concerned, there being any evident alteration of intelligence. I will never forget what was said to me one day by a persécuté who finally committed suicide, and who, outside of his fixed idea, reasoned admirably upon all subjects: "If," said he, "I should administer a correction to those individuals who grossly insult me in the street, I could not be responsible for it, for the desire to avenge myself for these outrages would have blinded me; but if I should take your portmonnaie, I would be but a thief; there is the whole difference." So, perhaps, it might be well in certain cases of partial responsibility to introduce a mixed system of repression—for example, to create a special establishment analogous to the penal colonies, devoted to patients under the jurisdiction of the courts; these persons would not be condemned, and, consequently, their families would be protected from dishonor. This measure, it is needless to say, would apply only to the slight cases, or to those of moderate intensity. But when the understanding has experienced a grave shock, it is necessary to take care of the patient, and not to punish him. Every time that irresponsibility cannot be doubted, society and the family have rights to protect and duties to fulfil. Society has, in fact, the right and the duty to interfere by placing the insane person under special conditions which shall prevent him from doing harm. If the interest of public security requires it, sequestration is necessary and indispensable; so the principle of sequestration ought to be admitted in a general way. There can only be doubt and difference of opinion in its application, for no absolute rule can be established applicable to determined cases. But from the moment the insane person in the eyes of the law is not responsible for his acts, it is natural and logical that society seek in sequestration a certain guaranty which assures it tranquility, when especially it cannot hold the insane person responsible for acts, often grave, that he may commit; since the insane person does not enjoy the freedom of his will, it is evidently indispensable to take away from him his physical liberty, which he may abuse to the detriment of society, of his family, and of himself.

Moreover, from a medical point of view, science has recognized and demonstrated that very often isolation is a valuable means of treatment. In the majority of cases an insane person ought to be, medically speaking, isolated at the beginning of his mental affection; it is the surest means of avoiding many misfortunes, and of assuring the greatest possible number of cures.

I knew a young man who, after having led a life of dissipation, ended by taking several inscriptions before the Faculté de Médicine. Some difficulty arising, he got a little angry with everybody, and believed himself persecuted by "*the pirates of the street of l'Homme-Armé!*" When he came to see me he was violent and dangerous; he told me that the pirates treated him as a pederast, and asked me to examine him in order to dispel the calumnies which were circulated about him, "and then," said he, "the first one who shall reproach me again in the street with being a sodomist, I am going to have him arrested, or—I will break his neck." Upon my refusal to proceed with his examination, the patient went out, saying that I would visit him in spite of myself, that all the pirates would be confounded, and that I should make his autopsy. Four days afterwards his dead body was found in the Seine, near Bas-Meudon. Ah, well, if this man, whom I had no right to have arrested, had been placed in an insane asylum, it is certain that we would have been able to prevent a suicide. The utility of isolation shows itself, then, about the beginning of the disease; but at what period does the necessity of it impose itself? There can be no absolute rule, for certain patients, quiet for several years, and considered as inoffensive, may become rapidly dangerous, before one has thought of isolating them. In our opinion, the moment for the necessity of sequestration ought to approach as nearly as possible the moment which we have indicated for its utility, that is to say at the beginning; for to leave the insane person in the midst of his family, and of all those things he has been accustomed to see, is to leave him amidst the surroundings where his madness has had its origin, and where it will grow stronger day by day. Society and the family still have the duty of defending the interests and the fortune of patients under the delusion of persecution. As these patients, ceaselessly absorbed by their unhealthy preoccupations, take no care to preserve their wealth, and waste in foolish expenses all their possessions, it is necessary to take certain measures in regard to them, such as interdiction or the appointment of a legal adviser. In fact, the persécuté ought to be treated as a minor, and consequently it is necessary to appoint for him a tutor to settle all questions about which he could not concern himself, or at least to restrict his liberty of action, in order to prevent him from compromising his affairs. Interdiction, or the legal counsellor, as the case may be, will generally suffice to protect the interests of the insane. There is always accord upon those measures when it concerns a grave case of insanity, but when the insanity is slight or of moderate intensity, it is rare that demands for interdiction, or for the appointment of legal counsel, are formulated against the patient. In fact, very much masters of themselves, and entirely familiar with legal formalities, these patients (persécutés) offer but little reward to the procedure, and generally triumph at the inquest. But the physician who knows that a fortune is going to be broken up and to be wasted in journeys or in suits, ought to promptly advise having the patient placed in a special establishment, and a provisional trustee immediately given to him. This very useful measure is taken in favor of the insane person by the simple fact of his entrance into a public establishment.

Such are, gentlemen, the few considerations of a medico-legal character which I have thought it my duty to lay before you in bringing to a close these lectures upon the delusion of persecutions.

SELECTIONS.

The Warnings of Heredity.—It is hardly any longer necessary to take pains to prove the existence of a general law of heredity. Medical readers, at least, do not require to be convinced that children as a general rule, the exception to which is readily explicable, resemble their parents in physical characters, intellectual aptitudes, and moral propensities. The broad law of *similia ex similibus* is written upon the face of biology, in plain and obvious characters, which no fine observation or nice discrimination is required to recognize. It is important, however, to be thoroughly convinced that heredity is not a mere vagrant principle, operating here and inoperative there, in an apparently uncertain and hap-hazard fashion, but a fixed law always in action, but liable to be frequently obscured, owing to the extreme complexity of its conditions.

A distinguished man has a foolish son, and a careless observer sees a breach of the law of heredity. It is forgotten that the folly may have been inherited from the mother, or from the grandfather, according to the well recognized principle of atavism or reversion. The fact that the tendencies of the two parents are always to some extent different, and may vary from close harmony to complete opposition, introduces an infinite variability into the result. If it be thought strange that children of the same parents should differ so much in appearance, and in mental and moral characters, it should be borne in mind, first, that family resemblance of feature and of disposition are rather the rule than the exception ; secondly, that the parents differ at different ages, and consequently transmit diverse qualities to their offspring; and, thirdly, that each child inherits something, but usually a different thing, from previous generations, by the law of atavism already mentioned.

It does not require much reflection to recognize how numerous and how vital are the inferences deducible from the law of heredity. We live in an age of education and culture, and we are apt to fall into the error of looking upon children as so much raw material, which can be molded into any shape by means of training, like clay in the hands of the potter. This is a serious miscalculation, which may be fruitful in vast mischief. Education can do much, but the limits of its powers are inexorably fixed by heredity. If a child possess a brain small in size and poor in convolutions, all the culture in the world will not enable him to achieve results comparable with those which the naturally gifted can attain almost without effort. The diversity of natural talent is enormous, although the attempt to educate all our youth up to some arbitrarily fixed standard may serve to obscure this obvious fact.

It is in the realm of disease that the warnings of heredity become most numerous and most solemn. We know that most constitutional diseases which permanently modify the structure or functions of the body are hereditary. Phthisis, scrofula, cancer, syphilis—these are merely the most terrible instances of a widespread phenomenon. In nearly one-half the recorded cases of gout there is evidence of a hereditary taint. In phthisis, the proportion has been put down at one-third, but in many cases the absence of proof affords no assurance that heredity was inactive. The extent of the hereditary character of cancer is one of the disputed points of pathology, but few doubt that the predisposition to the disease frequently exists, however much it may often have been fostered by local irritations. That syphilis, in certain of its stages, is almost inevitably transmitted, does not admit of any doubt or dispute.

The deductions from such facts are sufficiently obvious. The subject of phthisis should be earnestly dissuaded from marriage. If a predisposition to this disease exist on the side of either parent, the children should, as far as possible, enjoy abundant fresh air, sunshine, nutritious food, and the hygienic conditions which experience has shown to be most efficient in checking the development of phthisis. In the case of syphilis, the surgeon will often be consulted, and his advice, if based on adequate knowledge, will be the means of averting evils which are terrible to contemplate.

The principle of heredity will often afford valuable aid in the formation of a correct prognosis. A lingering bronchitis, or a slow-resolving pneumonia, excite widely different feelings of apprehension, according as the patient comes of a healthy stock, or of one tainted with phthisis. An enlargement of joint or bone has a widely different significance in a healthy and in a strumous subject. A doubtful tumor becomes much more grave if there be a clear record of cancer in the patient's family.

In the department of therapeutics, heredity may often give valuable guidance. A morbid condition which we are at first disposed to regard as purely symptomatic and trivial, may stand revealed in the light of heredity as a radical vice of constitution, demanding widely different treatment. The tendency to obesity may admit of ready counteraction, but, if it be clearly hereditary, it will probably resist our most patient endeavors. A little persistent oozing of blood from the gums may seem trifling, but it will tax our best efforts if the patient have inherited a tendency to hæmophilia.

Many facts are on record showing curious morbid tendencies running in families. Darwin relates a case of a woman who died of apoplexy at the age of 63. Her two daughters succumbed to the same disease. One of these had a family of twelve children, who all died of tubercular meningitis. Esquirol records a case of father, son, and grandson all becoming insane at the age of 50. Sir Henry Holland records cases of three brothers who had hemiplegia at the same age; of three sisters who each became epileptic at the age of 24; of three cases of diabetes in brothers under the age of ten; and a number of parallel instances. The important deductions, which the medical practitioner must draw from such facts hardly require to be shown at length.

One caution must be added in conclusion. Heredity is a tendency, not an unalterable fate. The strongest family tendency, say to phthisis, can often, under favorable circumstances, be averted, but only on condition that it is early recognized and vigorously combated by all the means at our disposal. By the early recognition of morbid tendencies in families, and the resolute adoption of preventive measures, the medical practitioner will enormously benefit his patients, and win for medicine another claim upon the respect and gratitude of mankind.—*British Medical Journal.*

ASTHMA, BRONCHITIS—ACUTE AND CHRONIC. By J. MILNER FOTHERGILL, M.D. Edin., Hon. M.D. Rush Med. Coll., Ill. Physician to the city of London hospital for diseases of the chest (Victoria Park).

Asthma is a term applied to totally different conditions. Its meaning is changing, hence the confusion. According to Dr. Johnson, in 1824, asthma is "a frequent, difficult, and short respiration." According to Dr. Nuttall, 1880, asthma is "a chronic, intermittent disorder of respiration; the term is also sometimes applied to any chronic difficulty of breathing." Of old the term had no definite meaning, covering the ground now embraced by "dyspnœa." At the present time a medical teacher uses the word "asthma" only when he speaks of a condition of hard breathing brought about by spasm of the circular muscular fibres of the bronchiæ. A lay person will use it in Dr. Nuttall's second sense, "any chronic difficulty of breathing," as in emphysema, pulmonary congestion from a mitral lesion, or any other cause of dyspnœa.

Spasmodic or bronchial asthma is an affection which comes on suddenly, and varies in intensity and duration, from a mere thickness of the wind to a terrible choking, from a few minutes to several days. When an asthmatic attack is on the patient's energies are bent to the act of breathing. There is a look of earnestness upon the features, which are pale and clammy, or even livid, according to circumstances. The shoulders are fixed so as to get the advantage of the pectoral muscles as accessory respiratory muscles. Very commonly the individual is spare and of the neurosal diathesis. After repeated attacks the shoulder-tips stand forward more angular than normal, so that the lean asthmatic may be recognized in the streets. A girl of ten on whom these characters are already stamped came under notice while writing this paper. An asthmatic, like a dyspeptic, is often an intelligent person; both having usually highly developed nervous systems.

At other times asthma is found with the truly emphysematous individual with the barrel shaped chest, and a high-colored complexion; a matter which will be referred to again later on.

The circumstances under which spasm of the bronchial muscular fibres is set up vary. With the susceptible nervous system it may have as its casual relations some mental disturbance, as emotion even; or in a woman the perturbation of the catamenia may, and commonly does, excite it. Probably this aspect of asthma as a true neurosis has not been sufficiently considered. Then it has relations to food; and an attack may follow a good dinner. The late Hyde Salter pointed out that when asthma has such casual relation it is apt to come on in the small hours of the morning; and that if the asthmatic will sit up awake till the hour is past, he can escape the attack, which certainly comes on if he allows the hour of its approach to find him asleep. In one asthmatic patient a non-nitrogenized dietary is enforced by her asthma; akreophagy alone renders life tolerable. As we are seeing gouty neurosis of the heart of various kinds so gouty disorders of the respiration are looming up. In one case of sudden thick wind in a gouty man the attack, after lasting six-and-thirty hours, passed off with a sharp bilious purging. The older writers spoke of "gouty asthma," indeed. Of course, all know its relation to the inhalation of irritant matters, mechanical or chemical. In such cases organic changes in the lung are set up in time. Needle-grinders, masons who hew fine stone, like that of the Edinburgh quarries, potters who inhale the fine dust of biscuit-ware, millers, bakers, feather-dressers, millstone pickers, all, indeed, who inhale fine particles, suffer from asthma; and in time broncho-pneumonia, which is fatal if they do not change their occupation.

There are other relations, however, of bronchial asthma which may profitably be considered. In persons of a highly developed nervous system the starting-point of asthma is commonly a cold. The bronchial lining membrane is so made irritable, with the consequence of this condition in turn starting bronchial spasm. There is some obstruction to the breathing in consequence of the swollen mucous membrane, which measurably lessens the lumen or calibre of the finer bronchial tubes. Super-imposed upon this comes the spasm of the bronchial muscular fibres, and then an acute condition of "asthma" is set up. Such is the natural history of attacks of asthma in some very charming young women.

The recognition of the casual relations of an asthmatic attack clears up the line of treatment to be adopted. In pure primary spasm the fuming remedies are of service. When secondary to bronchial irritation then inhalations of medicated vapor are more likely to be of service. In the latter case the treatment of the first stage of bronchitis (which will be considered in the article treating of bronchitis) is also indicated. Such, then, are the ordinary relations of spasmodic asthma in persons of the neurosal diathesis.

Persons of a totally different build and physique are subject to truly asthmatic attacks, which follow upon chronic bronchitis and emphysema. In these cases, along with sacculated conditions of some portions of the air-tubes are found other areas of thickened muscular tissue; and in these tracts of muscular hypertrophy spasm is common. Habitually "asthmatic" (in the popular sense), they are liable to attacks of "asthma" to boot—engrafted on the chronic dyspnœa, and causing acute distress. Here the treatment of the attack is that of spasmodic asthma—however brought about.

There are two conditions under which asthma *spasmodica* is simulated. There is pulmonary congestion from disease of the heart; either a mitral lesion, a failing left ventricle, or dilatation, or temporary distention of the right heart. Wherever the blood-flow through the lesser or pulmonic circulation is obstructed the condition is one liable to sudden aggravation with acute distention of the right ventricle. Such a condition is commonly spoken of as "cardiac asthma" —a not inappropriate term.

The other is flatulence. When there is a sudden development of gas in the intestines, the diaphragm can not descend, and the acute difficulty of breathing is experienced. Whenever from any cause (pulmonary or cardiac, or, indeed, hepatic) there is venous fulness of the portal circulation, and with that venous congestion of the mucous membrane of the alimentary tract, gas is given off, often in considerable quantities. In old-standing cardiac disease, in old-standing disease of the respiratory organs, and especially in emphysematous conditions, such sudden evolution of gas is common; and when elastic gas interferes with the descent of the diaphragm and presses upon the right chamber of the heart, acute distress is experienced. The sufferer will often call such an attack "asthma," and can find dictionary warrant for his use of the term. In chronic emphysema the diaphragm is the great matter in inspiration; and when it can not descend, very acute distress and breathlessness result. No wonder these sufferers speak of "the wind" with considerable empressment!

When the physician is called into a case of "asthma" his first business is to differentiate the particular case before him, and refer it to its proper class. So soon as this is done the treatment suggests itself naturally therefrom.

In "hay asthma" the existing cause is the pollen of certain plants, and specially the anthoxanthum odoratum. Here avoidance of the cause does away with the whole train of results. If the sufferer can manage it, a sea-voyage at the season would save him from his asthma. How far "hay asthma" is amenable to any line of treatment here to be suggested the writer can not say; it is not a malady grave or serious enough to come, or be brought under his notice.

Primary spasmodic, or bronchial asthma, in persons of neurosal temperament involves two lines of assault. There is the treatment of the attack and the treatment of the interval. When the attack is on, then something which will relax the muscular spasm is indicated. For the last fumes are in vogue. Nitre or touch-paper (brown paper soaked in a strong solution of saltpetre) may be burned. Himrod's powder, the solace of the late Lord Beaconsfield, is held in high repute by sundry well-known physicians liable to attacks of asthma. Cigars de Jay are the favorite resort of others. With some tobacco is sufficient. With others cigarettes of datura tatula, or datura stramonium, are found serviceable. With most asthmatics these "fuming" remedies give relief—more or less complete; but with others (fortunately for them but a small class) these fuming remedies are useless and inoperative. An emetic is the only measure of any service. In one case where the lean of animals has to be eschewed entirely, on account of the asthma set up by any indulgence therein, an emetic or a bad night are the alternatives. A scruple of ipecacuanha powder at bedtime ensures a fairly unbroken night; but this is a terrible alternative. Food has to be taken early in the day, otherwise the emetic is impotent to give relief. It is a life of misery, yet borne courageously. Then, local applications by means of vapors (produced by the spray) give relief in some cases. Sulphurous acid, nitrate of silver, and other medicaments have been tried with advantage. At one time lobelia inflata was a fashionable remedy in asthmatic attacks, and it is certainly worth a trial in many cases, though a nauseous remedy.

Then as to the treatment of the interval. First and foremost is belladonna, a potent stimulant to the respiratory centre, while at the same time it relaxes all circular muscular fibre (this statement is made deliberately). Then, ipecacuanha is good, and the two may be combined in pill advantageously. Arsenic often gives good results. Of course the vegetable tonics of all kinds and hæmatics suggest themselves; it is unnecessary to run over the gamut of tonics. Locality is a great matter. In one place the asthmatic is at ease; in other places residence is one prolonged agony. Change of locality is a matter to be discussed in all severe asthma. In catamenial asthma sometimes it is enough to give belladonna, or bromide of ammonium, as the case may be, at the flux, with some appropriate treatment in the interval. In asthma caused by the inhalation of irritants change of occupation may be essential to relief. The grinder or mason may enter the police force or enlist. Then there is asthma secondary to an irritable congested condition of the bronchial lining membrane, catarrhal asthma. Here inhalations of steam, plain or medicated, give great relief. To relax the turgid vascular mucous membrane (see article on Bronchitis) is to give relief. It is usually a persistent first stage of bronchitis, of a dry membrane with arrested secretion, which starts up the spasm. Fuming remedies here usually rather aggravate than allay the condition. Hence the importance of a correct diagnosis as to the causation of the spasmodic condition when called in to a case of spasmodic asthma. How far a chronic irritable condition of the bronchial lining membrane underlies recurrent asthma is a subject needing further investigation; it seems probable enough. That such a condition should exist in persons of the neurosal diathesis—the chosen subjects of asthma—is in harmony with one's experience of such persons; a distinct class, having features of its own. Asthma, neuralgia, migraine, dyspepsia, neurosal skin affections, as herpes, in women dysmenorrhœa and disturbances called hysterical, are the maladies which these "neurotics" step into as part of their inheritance.

Cardiac asthma carries with it its own appropriate treatment. Here the matter par excellence is the distention of the right ventricle, threatening paralysis in diastole. To prevent this untoward event two measures suggest themselves. One is to relieve the engorged venous system and right heart by venesection; and certainly in all grave cases the lancet should be brought on the scene. Relief being so afforded, the distended muscular chamber can once more contract upon its contents. The other is to flog on the heart by the external application of heat, as hot poultices to the front of the chest, or hot water in an india-rubber bottle (as that used to warm the bed), and by stimulants. Alcohol (in unstinted quantities if need be), ammonia, digitalis, strychnia, belladonna, all are useful. Sometimes alcohol is the only measure at hand, and must be used freely. In a lone farm-house the whiskey-bottle may be the only available medicine. To push stimulants and to bleed at one and the same time are not antagonistic measures; and the combination is indicated in severe cases.

In cases presumably of gouty origin a mercurial followed by a sharp dose of laxative medicine is the first step to take. Indeed, in other cases experience may have taught the sufferer that prompt action upon the liver will commonly avert or abort the attack. Asthma, like epilepsy, is in some cases preceded by the free indulgence of the palate or neglect of the bowels. Attention to the general health and the correction of everything amiss are often as essential as a complete equipment of fuming remedies for an asthmatic.

Asthma (or dyspnœa) of flatulent origin is a very common occurrence with many persons, and specially invalids. Here, of course, the fuming remedies are useless. Emetics may give relief. Carminatives certainly do. Essence of ginger or peppermint, cayenne in pill with bread-crumb, sal volatile, all are good. But perhaps best of all is the old Scotch wife's plan (advocated eloquently by the late Sir James Young Simpson, Bart.), viz., to put as much black pepper as will lie on a sixpence or a dime into a teacup, and fill half up with hot water; then drink all. This can be repeated at short intervals if necessary.

It is quite clear that in each and every case of asthma, indeed, perhaps every attack, no stone should be unturned, and every association should be weighed in relation to it. Attention to the causation will guide the treatment in one case; the experience of the afflicted individual at other times is invaluable in giving direction to our therapeutic endeavors. Asthma is a complex matter, with different pathological conditions (speaking of the term in its broadest sense) and varied clinical features. Equally capricious is the malady in its amenability to remedial measures; as variable as a coquette with her favors. What suits one case utterly fails with another—to all intents and purposes as like it as two shrimps are to each other. No one can tell why or wherefore! The locality which is preservative against asthma with one may provoke it with another asthmatic. "A gentleman, mentioned by Dr. Bree, could never sleep in the town of Kilkenny, in Ireland, without being attacked by asthma; and Lord Ormond could never sleep out of the same place without suffering in the same way" (Forbes).

But, granting all this, it is possible to so approach most cases of asthma as to elicit its associations, and on a correct and ample diagnosis to assail it on a distinct principle, and so to cope with it successfully, provided sufficient pains be taken in each case.

Bronchitis.—Acute bronchitis is a malady fraught with great danger to life in the very young, the very old, and in those already enfeebled by pre-existing disease. With robust persons in youth and middle age it is comparatively rarely fatal. It is, then, a malady which taxes the bodily powers; if they can be maintained then all is well, and the disease runs its course safely. Failure of the powers is the matter upon which the physician must keep an unwinking eye. If he loses sight of this cardinal matter the case may easily slip through his fingers.

Bronchitis has its two distinct stages, each requiring its own appropriate treatment. There is, 1, the stage of arrested secretion, and, 2, the stage of excessive secretion.

1. Stage of arrested secretion. Cold is probably the excitant of bronchial inflammation. The poor baby crying in the cold, taking in the chilly air by its mouth, and thus missing the warming plates of the turbinated bones, is usually the victim of bronchitis a few days subsequently. A garrulous old man is talking in a keen wind, and the same result follows. Of course the deed is done before medical aid is sought. In bronchitis distinct rigors are rarely experienced, merely some chilliness, or at most a feeling of some cold water running down the back. The respiration is labored, because the swollen bronchial mucous membrane lessens the bore, calibre, or lumen of the bronchial tubes. Of course, the finer the tubes implicated the more this is felt. When the fine tubes are largely affected, then the attack is termed "capillary bronchitis," and the danger to life is great. Such is the bronchitis set up by a thick London fog, which often slays its hundreds of victims. The expectorated phlegm, when the secretion stage is reached, is not the white froth of ordinary bronchitis, but a grayish mass not unlike an oyster in hue and bulk. Where the larger bronchiæ are chiefly the seat of disease then the malady is comparatively insignificant.

In the first stage of bronchial dryness there is usually much irritation, much useless, unavailing cough, for there is, as yet, nothing to be got up. The skin is usually dry. There is rarely marked pyrexia. The first step is to soothe the irritated membrane and to secure secretion. Relaxants are indicated, and of old nitrate of potash, with tartar emetic, would have been the line taken, with some opium and Plummer's pill at bedtime. The indications are to relax the swollen, turgid, dry mucous membrane, and to relieve the cough. The local application of steam, plain or medicated, by means of the "bronchitis kettle," is always good, and can be continued at intervals for hours, indeed until the desired end be attained. Then, if there be much complaint of rawness or soreness down the sternum, counter-irritation over the front of the chest is often very useful. As a pupil of the late Professor J. Hughes Bennett, of Edinburgh, of course I did not believe in counter-irritants on starting practice; but my results were so far below those attained by my father on the old-fashioned plan, that, perforce, I was driven to follow his plan or lose the patients. The best counter-irritant is undoubtedly croton-oil liniment; but it has the drawback of its effects if any other parts of the body, especially where the skin is tender, be accidentally touched by it. Especially is such counter-irritation required by robust countrymen. Then as to the general treatment.

At bedtime a dose of Dover's powder may be indicated, or a grain of opium with James' powder. If a robust man, a few grains of calomel may not be out of place. Whatever may be the objections to the use of opium later on—and they are overwhelming—the sole objection to its employment at this stage is its effect in arresting bronchial secretion. If there be much suffering and irritative cough, the lesser of two evils may be some opiate. Then, if a robust person, the treatment may consist of vin. antim., m. xv., vel. tinct. aconite, m. xv.; sp. mindereri, ℥ j., t.i.d. If a delicate person, pot. iod., gr. iij., sp. mindereri, ℥ j.; t.i.d. (sp. mindereri is liquor ammoniæ acetatis). Hot bottles in bed help to procure free perspiration, by which the general vascular turgescence is relieved, and that of the bronchial mucous membrane as well—the thing desired. In one case encountered in my early days, the young man had repeated attacks of bronchitis, always stubborn in the first stage, for which my father bled him with excellent results; and I had to bleed in another attack, after having exhausted my armamentarium of less heroic remedies. When the skin is got to act freely, then the bronchial membrane loses its irritability and secretion sets in, and the case enters upon its second stage.

2. Stage of excessive secretion. With the change in the condition of affairs comes the corresponding change in the treatment. Our object now is not to relieve the discomfort and promote secretion, but to enable the patient to get up the secretion with which the air-tubes are more or less choked, and which, if not got rid of, will accumulate and suffocate the patient. Now comes the struggle between the malady and the patient's power of endurance. No depressants are required now. Opium will arrest the secretion and clog up the bronchiæ. The patient may be wearied with the fight and crave for sleep, begging hard for a narcotic. A narcotic! Why, if it were not for the absolute necessity for voluntary effort to maintain the respiration, the patient would be off to sleep—like Damian in the intervals of the rack—without any need for a narcotic. To give a narcotic is to paralyze those very efforts without which life would soon ebb out. The patient is breathing for dear life, and what we have to do is to help the taxed organism to maintain the struggle. To drag the air through the obstructed air-tubes is trying work. Then cough is required to get up the obstructing mucus. What we now require, *par excellence*, are stimulants to the respiratory centre. The best known of these are ammonia, atropia, strychnia, ipecacuan, and squills. The combination might stand thus:

℞. Amm. carb. . . . . gr. iv.
Tinc. nuc. vom. . . . . . . m. x.
Inf. cinchonæ. . . . . ℥ j.
4tâ vel 6tâ horâ.

If it be desired to keep up the secretion, then serpentaria might be substituted for the cinchonæ. Senega is in repute, but its taste is most objectionable; if it be used, some spirits of chloroform must be added, by which it is rendered much less offensive. If the case be a bad one, probably the above combination had best be adhered to. If life is not gravely endangered, then

℞. Liq. atropiæ . . . . m. j.
Liq. am. anisat. . . . . . . m. xv.
Aq. . . . . ℥j. ——M. 6tâ vel 4tâ horâ.

may be preferable. If the case be mild, then

℞.	Ac. hydrobrom.	ʒ ss.
	Sp. myristicæ.	m. ij.
	Syr. scillæ	ʒ ss.
	Sp. chloroform.	m xv.
	Aq.	℥ j.

M. Three or four times daily,

may be sufficient; and a very elegant and palatable cough mixture this forms.

Bronchitis runs a definite course; and here, as in fevers, to tide the patient over the limited time is to save him. Failure of the powers under the demand upon them is the danger to be steadily kept in view. These powers must be sustained by meat-broths containing baked flour (*i. e.*, starch largely converted into soluble dextrine) and milk, with malt extracts or malted preparations; in fact, food containing grape-sugar—the natural food of the body. Alcohol may be indispensable, and must be given with no niggard hand if need be. Support! Supporting measures of all kinds in unstinted quantities are indicated. But there is one part of the organism that specially needs support, and that is the right ventricle. The strain on the right heart is at times tremendous, and failure of the right ventricle is the common cause of death. The right ventricle of a dugong, or other diving mammal, would be a grand acquisition in a bad case of bronchitis. If there be a pre-existing mitral lesion, then the state of the right heart is a cause of the greatest anxiety.

On commencing practice a number of cases of bronchitis went the wrong way, despite my utmost efforts. Chagrined and complaining of this one day to an old practitioner, and saying that in each case there was a mitral lesion, he consoled me thus: "You will find such cases will all die!" This was comfort of a kind; but the remark induced me after that to take the condition of the right heart into my calculations; and after that my results were more satisfactory. Digitalis was added to the mixture; and then my old friend's forecast was falsified! A hot bottle, or hot bran-brag, or hot poultice over the front of the chest is not only comfortable, but it keeps up the action of the heart, as well as loosens the phlegm.

Acute bronchitis may occur primarily and leave a chronic condition behind it, or it may occur as an intercurrent condition in a case of chronic bronchitis. When acute bronchitis is a primary malady it usually leaves behind a certain amount of vesicular emphysema, which in young subjects usually disappears; but occasionally one comes across a case of chronic bronchitis with well-marked emphysema in a girl barely in her teens. For aiding the recovery of the lung-elasticity strychnia seems to me the best drug. As to the resultant chronic bronchial condition, it may require iron in atonic cases. In gouty cases solvents of uric acid, potash, and lithia are indicated. Balsamic remedies are useful in all chronic catarrhal conditions of mucous surfaces, from urethritis to a bronchial flux.

Chronic Bronchitis.—This condition usually dates from some acute attack in the past, sometimes in the by-past. It may be a rheum without any true inflammatory first stage. As such it is an outcome of mitral disease, often masking the cardiac condition. Rarely, if ever, is it found without more or less emphysema. Every acute exacerbation leaves a worse condition of emphysema behind it. In the young the lung largely recovers, but not so in older subjects. Pursy or broken-winded before a new acute attack, the chronic bronchitis comes out of the struggle worse broken-winded than before. The efforts of coughing have further strained or ruptured lung tissue no longer possessed of the elasticity of early years. Consequently it is of great importance to avoid all acute bronchial trouble as far as possible.

This condition of emphysema is one of great clinical interest. Ordinarily it is assumed that emphysematous persons are barrel-chested. This is a very crude view. Of course, all are most familiar with the barrel-chested, red-faced, blue-lipped puffing persons obviously emphysematous. At each inspiration the sterno-mastoid muscles are seen to stand out like plough-cords. Often the skin between them can be seen to be sucked in simultaneously—deep fossæ being formed. The act of inspiration is a laborious one. Except when bustled by effort, the respiratory act is not increased in number per minute. The acceleration produced by effort will often tell more accurately than physical examination of the chest of the actual extent of the emphysema. If the patient be in bed, the respiration is seen to be distinctly abdominal. The comparatively immovable thoracic case is lifted up bodily by the neck muscles while the diaphragm descends. The lungs are too full of air even upon complete expiration. If called upon to speak, the patient will rest his elbow upon the nearest object, so as to fix the shoulder, and then take a breath. If sitting, both hands will be seen resting on the thighs so as to fix the shoulders, and thus get the benefit of the accessory muscles of respiration. On physical examination cardiac dulness is more or less completely lost from the attenuated lung spreading over the heart. The liver dulness does not commence till the ribs are nearly reached, and then the liver, pushed downward, is found extending considerably beyond the border of the ribs. The diaphragm of the emphysematous person is flattened; it is dragged down by the violent inspiratory efforts, while the voluminous lungs obstruct its return. The viscera on the abdominal side of the diaphragm are pushed down bodily. The thoracic space is thus increased. But if the abdomen be distended with flatus, then the descent of the diaphragm is impeded, and a condition of "asthma" is set up. Indeed, "wind" is the plague of their lives with emphysematous persons, with or without bronchitis.

All chronic bronchitic persons are more or less emphysematous, and therefore what has just been said applies to them. In addition, they have often some thickening of the bronchial lining membrane, which adds to their dyspnœa. Sometimes they have genuine attacks of spasmodic asthma.

The lines upon which such cases are to be treated are as follows: The respiration is embarrassed, and, therefore, a stimulant to the respiratory centre is indicated. So strychnia comes first. Then it is well to keep the bronchial secretion free and unchecked, and for this end ipecacuan suggests itself. But ipecacuan is a tonic to the liver as well, and so is doubly useful when there is nervous congestion. Some might add some benzoic acid. The right heart is embarrassed, so some digitalis will be useful. Then as to carminatives for the "wind." The essential oils, the peppers, and the nauseous gums are all good for flatulence. In pill form, a good combination is as follows:

℞. Strychniæ. . . . . gr. 1-24.
Pulv. ipecacuan. . . . . . . gr. 2-3.
Pulv. digitalis. . . . . gr. 1/3.
Pil. galban. co. . . . . . . gr. ij.
Bis aut ter in die.

If the bowels are not regular, a small quantity of podophyllin or croton oil may be added. To some readers such a compound may seem ridiculous. A derisive smile may flit over the features, betraying what is passing through the mind. But all the same this pill has done wonders for a large number of persons whom I know and have prescribed for.

And now as to rest at night, a very important matter. It may be well to try a mixture, so:

℞ Bromidi ammoni - - - - - - - ℈j.
Tinct. camphoræ - - - - - - ℥j.
M.

A favorite night pill with my late father, who had an extensive experience of bronchitis in all forms, was:

℞ Morphiæ mur - - - - - - gr. 1/4
Benzoic acid - - - - - - - gr. j.
Pil. scillæ co - - - - - - gr. ij.
M.

Here the benzoic acid counteracted the effect of the morphia upon the bronchial mucous membrane, and prevented arrest of the secretion. And such a pill really does give a great deal of comfort to old bronchitics whose rest at night is broken by bouts of coughing. Paregoric or tinct. camph. co. is a compound built upon this plan, and is often of great service where opium or morphia alone are baneful remedies.

Usually on leaving the recumbent posture on waking a coughing bout commences. Phlegm has gathered during the night on parts which have become more or less accustomed to it. But with movement the phlegm is dislodged, and then cough is set up for its removal. The accumulation is thus got up after much exertion, and then the chest is comparatively clear of phlegm, and comfortable. Sometimes the morning cough is trying, and shakes the sufferer terribly. Some hot tea or other hot fluid affords relief; while it is well to teach the patient how to cough properly. There may be no education possible or required in the matter of sneezing, but certainly this is not the case with coughing. The patient must be taught to fill the chest with air before giving way to the expiratory action—cough. Watch a person who has never learned to cough. See the futile attempts. The shallow inspiration, the useless, impotent cough. At last a paroxysm of cough comes on, the chest becomes fully inflated, and then the cough which follows expends the offending phlegm, a sense of relief following its ejection. When we reflect upon the sacculated condition of the bronchial tubes, and remember the firm wall of hardened-lung tissue of these bronchiectases, we can see how full inflation of the lung is essential for such compression as alone can force out the contents of such sac. To first fill the chest with air is the one condition of successful cough. To learn to do this is to save much useless coughing, and much strain upon the lung-tissue, leading to further emphysema. So much for learning to cough.

When the phlegm is hard to get up, from some check to the bronchial secretion, the inhalations of steam are good, and iodine, Friar's balsam, eucalyptus, and other agents may be added to the steam. Some persons burn benzoin pastilles.

For attacks of "asthma" the different "fuming" remedies advocated in the article on "Asthma" are indicated.

There are some points about the clothes and hygiene of chronic bronchitis worthy of mention. They are a chilly race, from impaired oxygenation and defective heat production. They are scant of breath and cannot get about. They must be warmly clad; yet they cannot bear any weight of clothes. Consequently their clothing must be light as well as warm. Furs in the day time out of doors; down bed-quilts for the night. Warm underclothing in the day; and a flannel night-gown. On cold nights a fire in the bedroom is good. A respirator is invaluable for preventing fresh attacks of cold. Fifteen years' experience of a respirator has told me its value and entitles me to speak. Never mind its unsightliness; or the remarks it may provoke on the part of the thoughtless, or even the sympathy of others. Like the gloves, it should always accompany hat and stick. If it had not been for a respirator the writer would have been a pursy, broken-down bronchitic, instead of a well and fairly preserved man approaching middle age.

Then, again, remember the position of the liver. Pushed out of its warm nook, thrust down so that much of it is only covered by the thin abdominal parietes, it is liable to chills. Consequently a cummerbund, or broad belt of several thicknesses of flannel, is most desirable. This protects both the liver and the kidneys. Specially is this last matter of moment where there is a gouty element in the case—a very common complication. The food should not be too highly albuminous; and the patient ought to be encouraged to take fat as far as possible in any and every form.

By such measures the chronic bronchitic may live on for years—practically on sufferance, *i. e.*, by taking proper care, death being the result of neglect or forgetfulness.—*New York Medical Record.*

CYCLIC ALBUMINURIA.—It has been fully recognized of late that albumen is often present in the urine of persons apparently healthy; indeed some writers, among whom may be mentioned Senator, claim that normal urine is always feebly albuminous. Without discussing the question whether albumen is a normal constituent of the urine, we readily admit that albuminuria, apart from renal disease, does occur in connection with disturbances of digestion, of innervation, or alterèd conditions of the blood. Dr. Pavy has recently drawn attention to a form of albuminuria which has, he thinks, a cyclic character. In these cases, he remarks, the urine examined at one period of the twenty-four hours is found to contain a considerable amount of albumen, whilst at other periods there is none, or merely a trace; and, moreover, what is observed one day is repeated with more or less exactness the next. The period during which the albumen is usually noticed is in the forenoon—9 A.M., 10 A.M., 11 A.M., and so on—till a maximum is reached, when it declines, and by the evening has usually disappeared. Dr. Pavy points out that an analagous phenomenon may be observed with persons who pass phosphatic urine. The early morning urine is clear and bright, but that passed after breakfast during the forenoon becomes alkaline, turbid, and phosphatic. Owing to the regular and periodic recurrence of the albumen during the morning hours, Dr. Pavy has applied the term "cyclic" to this form of albuminuria. We cannot help thinking, however, that he has laid somewhat too much stress on the periodicity of the albuminuria in question, and the very instance of the "alkaline tide" which he mentions as occurring in the morning urine, and considers to be analagous, has been proved by several observers not to be cyclic at all, but that it can be induced at any period of the day by appropriate means; and it has also been shown to have no connection at all with the phosphatic diathesis —that is to say, no increase of phosphatic salts is observed; they are simply deposited in the alkaline urine. So also as regards the so-called "cyclic albuminuria"—we think it can be shown that it does not depend on any special periodicity, but to general habit and circumstance. As Dr. Pavy observes, the urine passed on rising is usually free from albumen; it is the urine next passed that is albuminous. Now the early morning urine represents the secretion under the influence of rest, and the mere act of rising in persons who are in the habit of passing albumen under slight provocation seems in many instances sufficient to cause it. Thus, in the case of a young lady who was suffering from what was supposed to be "adolescent albuminuria," the urine passed shortly after rising was always highly albuminous; if she got up for breakfast the urine was albuminous in the forenoon; if she got up after lunch, in the afternoon; if after dinner, in the evening. Here the albuminuria could be made periodic by the habit of the day. In other cases the albuminuria seems sometimes attributable to cold—either to exposure while dressing, or to a cold bath, or even to washing the face and hands in cold water. The fact that neurotic albuminuria is observed clinically in some persons after a cold bath or exposure to cold has led some writers to suggest that the albuminuria thus induced is allied to paroxysmal hæmoglobinuria. Dr. Pavy's cases are interesting as clinical records, but we hardly feel disposed to accept his explanation that physiological cyclic change sufficiently accounts for the albuminuric phenomenon.—*Lancet.*

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

TRACTION ON THE WOMB AS A DIAGNOSTIC AND THERAPEUTIC METHOD.—In a paper on this subject in the *American Journal of Obstetrics,* Dr. B. E. Hadra, of San Antonio, Texas, says: There is no method so well adapted to give us the true condition of those every-day contractions and adhesions in the range of the parametrical cellular tissues—the remains of cellulitis—as traction. We can at once determine the seat of trouble, and with the greatest ease and accuracy diagnosticate nodules, contractions, and adhesions, and locate them in the cellular tissues, either around the neck in the broad ligaments or involving the vagina. Whilst the parts are on a stretch, the index finger, exploring in all directions, sometimes finds the most striking difference in the two sides. If there were no other benefit to be derived, it will indicate the best means of modelling the pessary, if one should be required. In most instances, the examination per rectum will not be necessary, as the finger in the vagina will be sufficient to clear up any doubt. As regards the ovaries, I am inclined to think that during traction, by a kind of a lever movement, their tendency is rather upward than downwards. Hence it would seem that Savage's idea (Plate XIX., Fig. 1) is correct. If so, when we are in doubt as to whether we are dealing with the ovaries or nodules, this method would be of service, provided the ovaries were not bound down to the pelvic floor. Another instance in which traction might be utilized is in deciding the relative length of body and neck of womb. With the sound, the length of the whole organ is attained, but a correct differentiation is rarely, if ever, determined. But whilst making traction, the examining finger can with great facility sweep the whole neck from behind, and a transverse ridge will indicate the line between the body and neck. At the same time we learn the amount of swelling in the infra- and supra-vaginal part of the cervix; and if I am not very much mistaken, we will by this means be enabled to diagnosticate a disease of itself, an inflammation and engorgement limited to the posterior wall of this part of the cervix.

He describes the examination as follows: The woman is placed in the usual recumbent posture and instructed to state when the manipulation becomes painful. The left index finger guides the vulsellum. I find the best instrument to be the so-called American bullet-forceps, with a spring-catch; it seems to me the simplest and least harmful, though others, for instance Hart's vulsellum, answer the purpose well. The instrument, guarded by the finger, is inserted into the middle of the cervix, though in special cases it might be hooked in more to the right or left, or only into the anterior lip. Now, by slow but steady traction, observing with discretion the character of the case, the womb is drawn towards the vaginal outlet, or more to one side, as the case may be; the left index-finger examining every part around the cervix and uterus, the broad ligaments, in a word, the whole area that can be reached.

In reference to the question of danger he says: In the thousands of cases in which the womb has been dragged into the vulva for operations, nothing has occurred to excite fear. Of course, no one would think of such a procedure if acute inflammation were present; chronic cellulitis is not a contra-indication. For the most part, the patient's own sensation is a sufficient safeguard. It is a very different matter where she is under the influence of an anesthetic, and undergoing a long and tedious operation. In the *American Journal of Obstetrics* (Jan., 1884), in a research on the danger of Emmet's operation by Dr. B. H. Wells, are the following lines: "Inflammation may be kindled in the connective tissue and peritoneum of the uterus and its adnexa, by roughness of manipulation, by too great traction in drawing the uterus downward, by the stretching or rupture of ligamentous legacies of previous inflammation, etc." But there is no occasion for too great traction or roughness of manipulation, and, as indicated above, with proper care and the patient's consciousness to guide us, the danger is almost *nil*.

In traction for therapeutic purposes the manipulations are essentially the same, though, of course, the contra-indications must be considered with more circumspection. From fifteen to twenty minutes are required for each traction, the procedure to be repeated every third or fourth day, as the case may be. It may be executed in the office with many of the most robust patients, though, as a rule, it is better done at home, and the woman directed to keep quiet until she has entirely recovered.

Dr. Hadra's object is not to treat the subject in reference to drawing the womb down as for operation, but purely as a therapeutical measure in itself. The effects we may reasonably hope for, he says, are the following: (1) Alteration as in nerve-stretching; (2) Freeing the engorged blood and lymph circulation, probably by disentangling the vessels; (3) Stretching of bands and adhesions, even breaking them up; (4) and lastly, we may expect an indirect influence on the ovaries, tubes, and even the ureters. Thus a vast number of female derangements will be susceptible to this mode of treatment, especially all troubles of impeded circulation of purely so-called nervous origin (and those caused by inflammatory processes and their sequelæ). It will not be expected of me in this, my first contribution, to enumerate all the ailments which may come within the range of this procedure. With only a private practice, and only one year's observation, my material has been comparatively meagre. Still, the uniform success warrants this seeming premature publication.

He then relates four cases of dysmenorrhœa, and two cases of old cellulitic deposits and cellular parametric impactions.

In reference to the latter, he says: This class of troubles being met with so frequently, I have been so fortunate in seeing them in such numbers, that I can state authentically that they are greatly benefited by this treatment. However, no reasonable man will expect a perfect cure, that is, the restitution of tissues which are more or less destroyed; but in nearly every case the painful sensations pass off, and a decided increase of the mobility of the uterus is the result. In applying traction in these cases, I combine with it massage, making with the finger in the vagina rubbing and pressing movements against the contracted and indurated parts during the tractions.

In speaking of Malpositions of the Uterus, he says: We might classify these under two heads; those caused by alterations in the tissues, and those involving supporting and suspending apparatus. The first will be benefited by the alterative effect. The second, especally retroflexions with descent, will, of course, not be proper subjects if they are due to relaxation or rupture of the fasciæ and muscles of the pelvic diaphragm or perineum. On the other hand, those caused by contraction of ligaments, adhesive bands, and adhesions generally, are the very ones which methodical traction will benefit most. More especially is this true in all retrospections, due to the narrowing of the sacro-uterine ligaments, or abnormal attachments below them. It is evident that downward traction, which can be extended from two to three inches, must stretch those ligaments and false membranes to the same extent or nearly so. Digital reposition, as that also with the sound, will turn the womb forward around the junction of the body and neck, as on a fulcrum. The excursion being evidently very limited, adhesions below will even be left undisturbed, while downward traction will bear directly upon them. Two cases of sharp anteflexion were so treated, and the general symptoms, pain, nervousness, and menstruation were improved. One had been pregnant twice, and aborted in both instances in the second month. She is now pregnant four months. The other is also relieved of her annoying pain, though after two months' treatment there is but little appreciable change in the position. But I can give a more satisfactory report in five cases of old retroversion and two of retroflexion, due to old inflammatory processes. They were all promptly relieved, and though a perfect restitution was not effected as to the position, the improvement was more rapid and satisfactory than by any other means known to me.

Two of these he gives in detail.

Of diseases of tubes, ovaries, and ureters, he says: As already stated, an indirect influence upon these organs may be expected, though I have not sufficient evidence to adduce regarding the first two. Besides, it has been said heretofore that any tubal affection is a contra-indication. But here is a case involving the ureters: A German lady, forty years of age, mother of several children, was under my care for years, coming a distance from time to time to see me. She had all the usual symptoms of severe uterine and ovarian trouble. The os and perineum were lacerated, and had been operated on with only slight improvement. I had always regarded it as a good case for Tait's operation, but she would not consent. On one occasion, while under my treatment, she was suddenly taken with a severe chill, but no rise of temperature. Pain in right side near the navel, urine clear, but very scant; cylindrical tumor was indistinctly felt near seat of pain. Having in my mind the interesting article of Hildebrandt (Volkmann's Samm. Klin. Vortr.), I diagnosticated retention of urine in the right ureter, and thinking that the womb might in a way be responsible, by pressure or otherwise, I at once made forcible traction, and in a few minutes the urine began to flow freely, the pain ceased, and the tumor disappeared. She stated that similar attacks had occurred before.

In conclusion, he remarks: I hope I may not be accused of being over-sanguine, for I have not indulged in all the enthusiasm which I feel. I merely hope that the principle herein set forth will prove correct.

OERTEL'S TREATMENT OF DISORDERS OF THE CIRCULATION.—*The Journal of the American Medical Association* of Oct. 24, has a leading article on M. J. Oertel's work on "Therapie der Kreislaufs-störungen, Kraftabnahme des Herzmuskels, Ungenugender Compensationen bei Herzfehlern, Fettherz und Fettsucht, Veränderungen im Lungenkreislauf, etc." The work is of interest to the public, mainly, in all probability, because it sets forth the author's method of reducing superfluous fat; to the medical man because of its original, and, as it would seem, highly effective treatment of disorders of the circulatory and respiratory apparatus. The object to be gained by the author's therapeutic measures is the removal or amelioration of the various symptoms which depend primarily upon disorders of the circulatory and respiratory organs, such as cardiac debility, fatty heart, general obesity, valvular disease of the left side of the heart, and impediment from any cause to the pulmonary circulation. These symptoms, such a dyspnœa, sweating, scanty urination with albuminuria, cardiac palpitations with a sense of oppression, hæmorrhagic spots upon the extremities, œdemata, etc., result directly from loss of the normal equilibrium of the circulating fluids; that is, venous plethora on the one hand, and arterial depletion on the other. Death results, in such cases, when not from apoplexy or intercurrent affections, either from secondary disease of the kidneys and dropsy, or from cardiac paralysis. This last again, is the consequence of organic lesions, fatty infiltration or degeneration, atrophy, etc., or, if the cardiac muscle be healthy, it is the result of exhaustion of the heart or of paralysis of its nerve-apparatus from overdistension of its cavities with blood.

An opportunity was given Dr. Oertel to test his skill in the person of a physician who had been humpbacked since childhood. Of late the embarrassment to the circulation and respiration, occasioned by the deformity, had greatly increased, in consequence, the author thinks, of corpulence and the habit recently formed of taking about seven times as much liquid into his system as had been his wont. This additional burden, the already hypertrophied heart was unable to sustain and dangerous symptoms followed. The indication then was to reduce the bulk of fluid in the system as well as the superflous fat. Blood-letting was inadmissable, since it would result it hydræmia; and as the kidneys were in a state of chronic hyperæmia, the water had to be eliminated by the skin and lungs. Accordingly, careful experiments were instituted to ascertain the most effective mode of accomplishing this. Accurate measurements showed that the greatest amount of water was eliminated, first, during mountain climbing; secondly, though not constantly, after hypodermic injections of pylocarpine; thirdly, by hot-air baths, and lastly by steam baths. In this way a man of 165 pounds in weight could be made to lose from a tenth to a fifth of the entire weight of his bodily fluids. At-the same time of course a minimum supply of liquid nourishment should be injected, care being exercised that the urine voided be sufficient in quantity to hold its solid ingredients in solution.

A second indication was to get rid of superfluous fat. This was to be attained by appropriate diet and mode of life. In attempts of this kind the author lays down the principle that care must be exercised to determine whether or not the heart be fatty, since upon its condition must depend the dietary. If the heart be sound, Oertel restricts the daily allowence of food to at least 156 grammes of albumen, forty-three of fat and 114 of hydrocarbons. If, owing to sluggish pulmonary circulation, from any cause, the oxygenation of the blood is inadequate to the consumption of the amount of these carbohydrates, they must be cut down to about twenty-five grammes of fat and seventy of the sugar and starches, while the albumen is increased to 170 grammes *per diem.* In order to facilitate the digestion of so large a quantity of albuminous food, by keeping the digestive fluids as concentrated as possible, he allows no liquid to be taken with the meal and not until an hour and a half subsequently. Furthermore, he found by experiment, that where restricted diet is inadmissable, the fat of the body can be reduced by the amount of water injected. The effect, he thinks, is to invigorate and accelerate the circulation, and to cause the obliteration of vessels supplying the adipose tissue; its nutrition being thus abolished and its elements absorbed. By a series of careful experiments he ascertained the comparative amounts of urine voided and water consumed, and found that, even if the latter be very limited, the former is largely in excess. Contrary to other experimenters he also ascertained that the white of eggs eaten in large quantities does not appear in the urine. Next he tried the effect of mountain climbing in restoring the equilibrium between the venous and arterial systems, believing venous stasis would be overcome by mucular contractions and the increased suction force of the thoracic viscera, on the one hand, while on the other, the pulmonary circuit would be more completely emptied and the arterial system better filled. By means of Von Basch's sphygmomanometer, Sommerbrodt's sphygmograph and two self-registering thermometers, one in the mouth, the other in the axilla, he discovered that in mountain climbing the blood-pressure is at first augmented; soon followed by diminution of the arterial tension and dilatation of the vessels, which effect is perceptible as late as the following day. Owing to the muscular activity, the generation and elimination of bodily heat are increased, thus favoring a more active tissue metamorphosis. The depletion of the venous system is furthermore promoted by the excessive elimination of water by skin and lungs. Observations upon thirty-five perfectly healthy individuals showed but in one instance under the effect of climbing, traces of serum-albumen, and in two, traces of hemi-albumen in the urine. The effect of preëxisting albuminuria was not noted. Oertel is of the theoretic opinion that climbing would exert a beneficial influence upon a heart which, although weak, yet possesses no serious organic disease or degeneration of its muscular elements. In such a case as that of the physician already cited, such vigorous exertion might be hazardous, and experience alone could determine the result. He thinks the defect ought to be to develop an advantageous hyperthrophy through the augmented force of its contractions, just as exercise develops any other muscle.

This plan of treatment was tried upon the physician with brilliant results. By methodical and gradually increased mountain climbing, appropriate diet and lessened ingestion of liquids, the venous stasis was relieved, the pulse became full, slow, and regular, and the respiration deep and easy. The heart was evidently reinvigorated. The corpulence was lost entirely, but the albuminuria did not wholly disappear until after three years, and the last vestige of dropsy, not until the treatment had been followed for more than two years. In all, Oertel has treated fifty-one cases of disordered circulation after this fashion.

This mode of treatment is one that recommends itself to careful attention, if for no other reason, because it does away with the deleterious effects of the prolonged employment of internal remedies which are but too often powerless. It is therefore highly rational, and the patient and physician alike should be consoled for the length of time necessary for this system of therapeutics by the reflection that a chronic disease requires chronic treatment.

THE TREATMENT OF DYSENTERY.—In an article on dysentery in the Boston *Medical and Surgical Journal*, Dr. Thomas Buckle, of Baltimore, says: In all parts of the world there is no disease so badly, irrationally, and unphilosophically treated as dysentery; hence the fatality, not only of this malady, but also from abscess of the liver, one of its most common and fatal sequences.

The principle of the saline treatment consists in the use of wet, saline purgatives, whereby *the idiopathic dysentery is couverted into a symptomatic diarrhœa.* The saline, acting on the exhalents, unloads the engorged glands, mucus ceases to be secreted, and a profuse watery discharge takes its place. To accomplish this, half an ounce of Rochelle salts—tart. potass—and sodium, or a like quantity of Epsom salt (sulphate of magnesia) or glauber salts, sulphate of sodium, is sufficient. As soon as the action of the salt is over, give twenty drops Sydenham's tincture of opium, eight of black drops, or a grain of powdered opium. This usually closes the case, or to use the popular phrase, cures it. If, after the effect of the anodyne passes off, tormina, tenesmus, and the voiding of mucus from the bowels are renewed, then the remedies, as directed above, are to be repeated, and in forty-nine cases out of fifty nothing more is required to be done. Early in the Mexican war with the United States, Dr. S. Tilghman, having obtained the place of assistant surgeon in the army, went directly from the Baltimore Alms House to Vera Cruz, where the troops were dying, at the time, of dysentery, like sheep, of the rot-charbon. Introducing the saline treatment, the patients all recovered, and, three weeks after landing, Dr. Tilghman was appointed chief medical director of the place.

But where the vaso-motor nerves are paralyzed by blood poison, the mucous and sanguineous discharges, instead of stopping under salines, go on more profusely than before their use; and in rare cases the tormina, tenesmus, and discharges become more active; the pulse gets small, frequent, and sometimes thready; the extremities become cold, as does also the sweaty surface of the trunk; the patient often in a squeaky voice complains of great weakness, and if the stools be examined they will be found to be nothing less than the product of a "bloody flux," all, or nearly all, the mucus having disappeared from them. In this emergency a grain of pulv. nucis vomicæ may be given to a child and five grains for an adult, with the best results, and the attendant will be astonished, as I have been, at the salutary effect of this agent, often changing, as it does, the entire complexion of the case. I have never ventured to give more than five grains, on two consecutive days. Strychnine, in this condition, does no good, being taken up from the stomach into the circulation; but given in the form of the powdered nut, the remedy gets down into the intestines, and the strychnine being slowly dissolved out, is used at the place where it is wanted.

I have seen one endemic and one isolated case, besides, where the patients were suddenly seized with slight chilliness, followed by tormina, tenesmus, and great weariness; the pulse small, feeble, and frequent; the skin cool, covered with an oily kind of sweat, and the stools, altogether the most characteristic sign of this peculiar form of dysentery, were mucus, having the exact color of hickory ashes. In this formidable condition nothing is required but to give five grains of capsicum every three hours. By the time, or before, six of these pills had been taken, a profuse flow of bile came away, changing entirely not only the character of the stools from gray mucus to bile, but improved the condition of the patient so much that return of strength and convalescence were at once established.

In this epidemic which occurred at Baltimore in 1848, many cases, treated with small doses of ol. ricini, calomel, and opium, ipecacuanha, and by other means, were detained in bed for a long time, and a number of them were fatal, whereas the cases relieved by capsicum alone were never kept at home longer than three or four days at most. I presume that capsicum, in this condition, acts as a fillip to the hepatic ganglia, thereby enabling the secretory apparatus of the liver to resume its work.

For dysentery solids are, as a rule, better than liquids—properly cooked cold rice, boiled fish and tender beef, mutton, or chicken, roasted, rather than ice-water beef tea, chicken and mutton broth or milk.

Cases malarial in their origin should be removed and kept supplied with pure fresh air. The treatment of dysenteric ulceration of the colon has already been considered in a paper on the typhoid malady.

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ORIGINAL ABSTRACTS.

INFANTILE CEREBRAL HEMIPLEGIA (*London Medical Times.*)—Paralysis in children is much more commonly of cerebral origin than the amount of attention paid to it in the text-books would lead the student to suppose. But little is known as to the etiology of this complaint. The cases in which any infectious disease preceded the onset have already been excluded. In a few cases hereditary syphilis may have played a part, but in many instances there has been no reason to suspect syphilis. Sometimes there is a clear history of a blow or fall on the head, but in a considerable number no cause can be assigned, the infant up to the time of the convusive seizure having appeared to be in perfect health. So that in this respect much yet remains to be worked out. Nor is the pathology of the affection much better understood. The ultimate result—for many cases have been examined after the lapse of some time—is a condition of atrophy and sclerosis of the cortex in the motor area of the opposite side of the brain, spreading into the frontal region when mental symptoms have been prominent, and accompanied by thickening and adhesion of pia mater over the affected area. But what the changes are which lead to this final result is still matter of speculation, inasmuch as the chance of making a post-mortem examination in the earliest stages is never obtained, or, if it be obtained it is before the symptoms are sufficiently pronounced for the disease to be recognized. Tumor, which is perhaps the most common form of brain disease in children, may be set aside as negatived by the course of the symptoms. Hemorrhage may likewise be excluded as extremely improbable, apart from any hemorrhagic or scorbutic tendency. Embolism is more difficult to exclude, and it no doubt is frequently the cause in those cases coming on after one of the exanthemata; but there must always be a cause for embolism, and in the majority of cases this cause would be discoverable if it existed. Thrombosis is still more difficult to exclude, and has the sanction of a very recent and very great authority on nervous disorders; but then, again, thrombosis is hardly a primary condition. A very recent German writer has put forward the suggestion that the lesion primarily affects the large multipolar cells in the motor area, corresponding to the lesion in infantile spinal paralysis, and proposes the name of polio-encephalitis: this view has received the approval of a well-known French neurologist, but the theory hardly accords with what is known as to the ultimate changes in the central nervous system in this disease. On the whole, it seems probable that a local simple meningitis may be the starting point, and that it may be followed, either as just stated, by thrombosis, or as has lately been suggested, by capillary hemorrhage into the meninges and brain substance owing to the violence of the convulsions.

OPIUM HABIT IN THE NEGRO. (Dr. J. D. Roberts, in the *North Carolina Med. Journal.*) We can see some reason why the colored man is not as susceptible to the habit as the white. He has not the same delicate nervous organization, and does not demand the form of stimulant conveyed in opium—a grosser stimulant sufficing. The opium habit is contracted, in a majority of cases, from the physician's prescription being too long continued, either from carelessness or inattention on his part, and often unfortunate information as to what the medicine was which produced such results. In the country and smaller towns of our State this habit is not so liable to follow its prescription in the negro, first on account of his general ignorance, and next from his poverty, as well as from the less desire he has for this form of stimulant. In the large cities, especially the Northern ones, where the financial, social, and we might say, the *nervous* condition of the negro, are of a higher scale, we may find the opium habit more prevalent. As it is a known fact that the advances made in the negro as a social being are bringing with them evils in the way of diseases incident to a higher civilization, information on these points is desirable, as a closer or more extended study of the subject may show other reasons for so little of the habit in the negro. An indulgence in the opium habit brings with it certain changes of character as to honesty, veracity, etc., and in the only case under observation the habit in the negro differs nothing in this particular from that in the white race. Dr. J. B. Mattison, of Brooklyn, New York, lays much stress on the fact that most cases, in fact, nearly all, of opium habit originate by commencing its use for the relief of pain, generally of a neuralgic character, and we know that the negro, owing to his lower nervous development, is not liable to diseases of this character.

THE USE OF THE EUCALYPTUS-AIR AND DRY DRESSINGS (A. W. Mayo Robson, F. R. C. S., in the *British Medical Journal.*)—Although it is becoming the fashion in certain quarters to considerably modify the strict rules of antiseptic surgery advocated by Professor Lister, I cannot help thinking that the use of some atmospheric purifier gives us greater certainty of success, especially in hospital practice. Believing this, I still use either carbolic spray or eucalyptus-air in operating. The carbolic spray often chills the patient, and wets and obscures the vision of the operator, so that if one can find a substitute free from these defects, it must be advantageous to employ it. The eucalyptus-air apparatus, which I had the honor of showing at the meeting of the British Medical Association at Worcester, seems to me to supply the place of the carbolic spray, without its disadvantages; and, as shown by the brief reports of the following cases, from among many others in which it has been employed, the wounds, as a rule, run a perfectly antiseptic course. The dressings employed are a single layer of gauze, wet with a solution of carbolic acid, 1 in 40, or of perchloride of mercury 1 in 2,000, applied next the wound, and over this a thick cover of salicylic silk or wool, the whole being retained in position by means of a gauze bandage. If no drainage-tubes have been employed, there is a first and final dressing; but if tubes have been inserted, they are removed on the third day, and another dressing is applied. This system of dry dressing is employed by my colleagues at the Infirmary in Leeds, and we have every reason to be satisfied with it, as being cheap, convenient, and efficient. The cases reported are as follows: 1. Double Macewen's operation for genu valgum. 2. Double Macewen's operation for genu valgum. 3. Numerous osteotomies. 4. Amputation of breast and axillary glands for scirrhus, in a patient aged fifty-eight. 5. Excision of cystic tumor of breast. 6. Numerous amputations of mammary gland, in hospital and private practice. 7. Excision of the knee. 8. Excision of sack of spina bifida, with aseptic course, and cure. Two cases. 9. Amputation for gangrene of leg. 10. Case of excision of varicocele. 11. Abdominal sections for pyo-salpinx. 12. Numerous abscesses in various parts, incised and drained. 13. Incision of large scrotal hæmatocele. 14. Empyema. Several cases. 15. Operation for strangulated femoral hernia, with radical cure. 16. Ophthalmic cases, as reported by my friend and colleague, Mr. Hewetson, who informs me that since he has used the eucalyptus-air in ophthalmic operations, he has never lost a single case of cataract. 17. Excision of several bones of the tarsus, in a girl aged thirteen; dressed weekly for four months. The above brief record will, I trust (he said in conlusion), serve to show that the eucalyptus-air machine is capable of enveloping the region of a wound in a pure atmosphere, free from organic particles which may set up putrefaction, and that the dry dressings are thoroughly efficient in keeping the wound aseptic. It is important to bear in mind that the chamber containing the cotton requires recharging occasionally, and that a little fresh eucalyptol should be added to both tubes, after the apparatus has been employed a few times. I need scarcely add, that every antiseptic precaution is adopted in the way of attention to hands, sponges, instruments, etc.

CASE OF RHINOLITH (E. Creswel Baber, M.B., in the *British Medical Journal.*)—On April 4 last, I was consulted by Dr. A., a neighboring practitioner, suffering from a discharge from his left nostril, and with his permission, I give the following particulars of his case. He stated that for the last two or three months he had had a discharge from the left nostril. In the daytime it would be watery, but in the night there was a thick discharge, sometimes tinged with blood, which soiled his pillow. If he lay on the right side, it did not discharge as much as when lying on the left side. He had suffered no pain, neither had he noticed any nasal obstruction. He fancied the discharge was at times rather fœtid. He had not suffered from his ears. There was no history of any reflex nasal symptoms. On examination, the external nose presented no distinct deflection of the dorsum. Both alæ nasi were reddened at the posterior part, the left much more so than the right. The right side was free to the passage of air; the left was much obstructed. On anterior rhinoscopy on the right side, there was seen to be a large deflection of the septum into the cavity, and the inferior turbinated body was somewhat swollen, otherwise normal. On the left side, the anterior nostril was filled up with thick discharge and granulations. By posterior rhinoscopy, the turbinated bodies were plainly seen, and were normal on both sides. After syringing the anterior nares, I found between the anterior end of the left inferior turbinated body and the septum a black substance, presenting to the probe a very irregular surface. It was quite hard to the touch, and movable. Only a small portion of it was exposed, the remainder being covered with granulations and swollen tissue. I tried to seize it with the forceps, and to get a hook round it; but, though I could move it, I desisted for the time on account of the pain and free bleeding which ensued, and directed Dr. A. to syringe with salt and water, and to return in a day or two. On questioning the patient carefully, he remembered distinctly, when three or four years old, putting a black boot-button into his nose, but he did not remember into which side; neither had he any recollection of its coming out again. He had not the least idea of its being in his nose, not having thought of it until questioned, and having had no inconvenience from it whatever till the last two or three months, when he had the discharge. Two days later (April 3), I had a letter from Dr. A., saying that after my examination of his nose, he could distinctly feel that I had moved something, which, pressing on some nerve, gave him neuralgic pain in the eyeball. This induced him on his arrival at home, to try to shift the offending body. After a few attempts, he succeeded in bringing out, in three or four pieces, the offending button. When seen on April 7, he stated that he had since had some bleeding, but that the discharge had ceased. The left nostril was freely pervious. On examination of the left nasal cavity, the septum presented, opposite the anterior end of the inferior turbinated body, a small dark reddish mass, like a granulation with dried blood, which felt quite soft to the probe. Behind and above this point, the septum was deflected to the right. The anterior end of the inferior turbinated body was much flattened, and showed a concavity into which the foreign body had evidently fitted. The palatal movements on deglutition were plainly seen through the inferior meatus. The remaining structures, including the middle turbinated body, were fairly normal. I have not seen Dr. A. since, but have heard from him quite recently (July 5) that he is not feeling the least ill result from the long imprisonment of the foreign body. The foreign body was examined by Dr. Sheridan Delépine, Pathologist to St. George's Hospital, from whose report it will be seen that the body, though originally a boot-button, has, in the course of years, become so coated by the deposit from the nasal secretions as to form a true nasal calculus or rhinolith. Rhinoliths generally, as in this case, owe their origin to the impaction of foreign bodies on which the salts of the pituitary secretion became deposited. This is doubtless favored by the obstruction to the escape of fluid which they present. Stones of fruit often form their centre; but in other cases, such as one recently reported by Schmiegelow, of Copenhagen, no foreign body can be detected as a nucleus. The present calculus is small, compared with others which have been described. Apart from the iron of the button, it has the usual composition of these concretions. A singular feature of the case is that the foreign body should have remained in the nasal cavity for so long without, according to the patient, giving rise to any symptoms. The diagnosis of the case presented no difficulty whatever, but it sometimes happens that rhinoliths are mistaken for malignant disease, as in an instance reported by Dr. Jacquemart in the *Annales des Maladies de l'Oreille et du Larynx* for May 1884. I think it very probable that the deflection of the septum was produced by the long-continued pressure of the rhinolith. Reflex symptoms are sometimes produced by nasal calculi. The marked redness of the left ala in this case may probably be considered of this character. The removal of a rhinolith, if small, need present no difficulty; but in treating cases of nasal discharge, it is important to be alive to the fact that such concretions may be present, and be the cause of all the mischief.

CASES OF PAINFUL MAMMA IN YOUNG GIRLS. (John H. Morgan, F.R.C.S., in the *British Med. Journal.*)—F. H., a healthy, well-made girl, aged eleven and a half, was brought to see me at the Hospital for Sick Children on account of great pain in the left mamma, which had existed for nearly a twelvemonth, but had latterly become more severe. She was rather weak and overgrown, but otherwise she appeared to be in good health. There was no history of any blow or injury. The left mamma was very little larger than the right, yet there was a slight but decided swelling of the whole gland. She complained of continuous pain in this region, and the very slightest pressure caused her to wince. The mother stated that, at times, the pain was very severe, and there was no doubt, from the child's manner when seen, that this was the case. There was nothing to warrant the suggestion of hysteria. No catamenia had appeared, nor were there any other indications of their advent. It was stated, however, by the mother that two elder daughters, by a former marriage, have found the catamenia appear at eleven and one-half years of age, and both had premonitory symptoms, the one experiencing severe headache, which ceased upon the appearance of the menses, and the other suffered from a rash upon the body, and headache. In both these children there was no appearance of any flow for two years subsequent to its first occurrence. The painful condition of the mamma in this child continued for six weeks, notwithstanding local and general treatment, during which time no alteration in the condition of the gland was to be noticed. There was no heat or redness of the areola, and there was but little enlargement, nor was any change observed in the appearance or condition of the nipple. At the end of this period, however, the right breast became afflicted in an identical manner. For another six weeks—during which she was treated with aloetic purgatives, with iron, and with the local application of belladonna—the condition remained much the same; but at length it began to intermit, the pain disappearing for a few days and again recurring, until, at the end of the fifth month after I first saw her, the symptoms disappeared, no catamenial show having then occurred. In the last four years I have had several cases of this painful affection of the mamma brought to my notice. The ages of the girls varied from ten and one-half to twelve years, and most were tall and well formed. In five of the cases the left breast only was affected, and in one case the right, whilst both were consecutively the seats of pain in the case above detailed. Seeing this more frequent tendency of the left mamma to become affected, it occurred to me that it might be due to the pressure of the chest against the desk in writing, and in one or two of the patients this was thought a possible explanation, but in none of them did the pain cease for many weeks after they had been kept from school, or prohibited from writing. All the cases remained under observation for many weeks, and I cannot say that they were much relieved by local or general treatment. The pain, as in the above case, became intermittent, and at last ceased. Some nervous symptoms were present in two of the children, one having been previously under treatment for chorea, which had not entirely disappeared, and another suffered from occasional headaches, vomiting, and pain in the lower part of the abdomen. The absence of any great heat, redness, or swelling, puts inflammatory conditions out of the question, and the age of the patients, the obstinate and chronic character of the pain, together with the slight enlargement of the gland, and its extreme tenderness on pressure, would seem to point to some developmental change in the structure of the gland, which accompanies, or may even precede, the changes which are doubtless commencing about that period of life in the ovaries and organs of generation, with which the mamma has so many sympathies.

THE SIMILARITY OF THE PHENOMENA OF THE NERVOUS SLEEP, HYPNOTISM, SPIRITUALISM, TO THE PHYSIOLOGICAL ACTION OF CANNABIS INDICA OR HASHISH.—(Dr. A. L. Hodgdon, in the Maryland *Medical Journal.*) The hashish has long been employed by the Malays as a means of producing a peculiar kind of intoxication, and the ecstatic state produced by the same undoubtedly bears, in many ways, a close resemblance to the results manifested by inducing the so-called condition hypnotism. It has been variously classed among the narcotics, etc., by different writers, but the classification made by Fonssagrioes seems to indicate its character very clearly, viz., primarily classed among the "delirants," secondarily among the "cannabiques." Hypnotism, or the *sommeil nerveux* of Demarquay (the last term appearing to be the preferable one), with its long line of allied states and synonyms, i. e., catalepsy, mesmerism, and the so-called spiritualistic manifestations made manifest by clairvoyance through the medium of the nervous sleep, has attracted considerable attention since the time it was announced by Mesmer about the year 1772. There are some phases connected with the nervous sleep that seem at most unexplainable, but in legerdemain as well there are things that puzzle the most acute of observers. For example, in a somnambule who came under my immediate observation, while in the mesmeric sleep (having the eyes closed), upon being asked the hour (although there was at the time a clock in the room and a watch in the pocket of the subject) gave in response the time that was between the time indicated by the clock and that of the watch, it being afterward ascertained that the clock was a few minutes too fast and the watch a few minutes too slow. But upon questioning the subject, who was a very intelligent person, and was not prone to give way to superstition, it was found that he was very good at a guess in reference to the time. Dr. Tuke,* however, gives so many instances in his most elaborate work of the influence of the mind upon the body that it is scarcely to be wondered at that a party having a firm conviction that he will see something would after a while have a hallucination, and ever afterward have it engraved on his mind that he had seen what he had been looking for. But for all who are inclined to look upon the subject in a natural light, and not to gaze at the same through the dim vista of the supernatural, they could not do better than read Dr. Carpenter's† admirable little work. Now, taking hypnotism as a scientific phenomenon, you have in it something more tangible to compare with the action of hemp. We know in the first place that both hypnotism and hemp produce a sense of double consciousness in the person who comes under their influence, both have an analgesic action, and both, in some degree, an anæsthetic one, both are characterized by a tendency to produce hilarity, and at times pugnacity, while a sense of *bien etre* is noticed to be produced by both ; a sensation as of an electric current passing through different portions of the body is noticeable in both. The party under the influence of either is largely influenced by his surroundings ; and, finally, the action of the hashish corresponds to that of the nervous sleep by leaving no malaise in its wake like one notices so often to follow a dose of opium. Both greatly tend toward the production of catalepsy, one of the phases of the mesmeric state. Hypnotism has been largely given over to clairvoyants, instead of being scientifically investigated to any great extent, while the investigation of the action of hashish has not received the attention it has merited in comparison with other drugs.

A CASE OF ENUCLEATION WITH REPLACEMENT OF THE HUMAN GLOBE BY THAT OF A RABBIT.—Dr. H. B. Chandler gives, in the *Boston Med. and Surg. Journal*, a report of this operation, which was performed on the 9th of August by Dr. W. H. Bradford, at the Massachusetts Eye and Ear Infirmary. The patient was a seaman in good health, and about thirty-five years of age. In consequence of an injury received in early childhood one of his eyes had become atrophied, and, as is usual in cases of such long standing, the globe was very much atrophied. The operation for the removal of the stump was conducted in the usual manner, with the exception that a strabismus hook was passed beneath the recti muscles, and a suture inserted previous to their division from the sclerotic. The atrophied globe having been drawn forward, a needle was entered through the conjunctiva close to the inner canthus, the nerve, and a suture inserted as near the centre of its substance as possible. The nerve was now divided close to the sclerotic, the stump was removed, and the resulting hemorrhage, which was trivial, controlled by ice. The next stage of the operation was the removal of the eye from the rabbit. A rabbit having been obtained whose iris nearly matched the color of the patient's eye, a circular incision was made in the conjunctiva about 5 mm. from the cornea, the conjunctiva carefully dissected backward, and the tendons of the recti and obliqui divided close to their insertion. The eye being now drawn outwards, the nerve was cut at about 8 mm. from its sclerotic entrance. The cavity of the patient's orbit being, by this time, perfectly free from blood, a little albumen from a fresh egg was poured into it, and the rabbit's eye also dipped in albumen previous to putting in place. The suture, which had previously been passed through the patient's optic nerve, was drawn forward and inserted into the optic nerve of the eye, and by means of a peculiar double slip-noose the ends of the nerves were brought into apposition; one end of the suture was cut short, and the other, which had been passed through the conjunctiva, near the inner canthus, was firmly secured by means of a piece of adhesive plaster to the nose. The object of thus securing it was to prevent its being subjected to any tension, which would have resulted in the removal of the slip-noose. The four recti muscles were next brought into position and sutured to the sub-conjunctival tissue, and the conjunctiva attached by four sutures to the band of the same tissue which had been left around the cornea. The lids having been closed, iodoform was dusted over them and a pad of absorbent cotton and flannel bandage applied. On the twelfth day after the operation the condition of the eye was as follows: cornea hazy, but somewhat less so than when previously examined; conjunctiva well united around the cornea and to the globe; exposed sclerotic on outer side had become covered to about half of its extent; recti muscles working satisfactorily, with some improvement in divergence over that manifested before. Eighteen days after the operation the condition of the eye was as follows: conformation and tension good; cornea improving, and has cleared peripherally so as to allow the iris to be distinctly seen; chemosis of the conjunctiva has disappeared, although the membrane remains congested; exposed sclerotic on outer side of the eye practically covered by the conjunctiva; ocular movements in all directions good. The object of the operation above described was partly experimental—an endeavor to ascertain whether a whole organ could be nourished sufficiently long to have a vascular supply established. In this respect, we believe that a reasonable degree of success has been obtained. Vision was not expected in the transplanted organ in any case, for the optic nerve was composed principally of connective tissue, and diminished to half its normal size. The principal aim, therefore, in this case, was to obtain cosmetic effects. The patient was desirous of obtaining an artificial eye, but his occupation being that of a seaman, the nature of his calling made it undesirable to use a glass artificial eye on account of its liability to be broken. It was therefore resolved to attempt this experiment. The value of the operation cannot from one trial be fully estimated, and it is extremely dubious whether vision could be obtained by the union of the optic nerve. That it would prove, however, of some practical value in the case of children upon whom enucleation has been performed is credible, for it is well known that in those cases the orbital cavity is imperfectly developed. It is true that we would not expect the globe to increase in size as if a fully-matured rabbit's eye was taken; but Dr. Bradford suggests that the substitution of a young dog's eye might obviate the difficulty, as it would, in all probability if well nourished, increase in size as it would have done in its normal position. Cosmetically. it could be used in those cases that are often met with where an artificial eye cannot be used on account of some deformity in the conjunctiva or lids.

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*Tuke's "Influence of the Mind Upon the Body."

"†Mesmerism, Spiritualism, etc., Historically and Scientifically Considered." By William B. Carpenter, C.B., M.D., LL.D, etc.

A NEW METHOD FOR THE RESTORATION OF THE CESSATION OF RESPIRATION UNDER CHLOROFORM.—(Dr. R. Milne Murray in the *Edinburgh Medical Journal.*) This process, which I may term "perflation," I carry out in the following way: Disconnecting the rubber tubing, I take the end of the T tube attached to the tracheal cannula in my mouth, and closing the branch with the finger, I make one or two aspirations of the lungs, compressing the chest gently at the same time. This removes a considerable qnantity of vapor from the upper passages. Then opening the branch, I make a series of deep inspirations. The air rushes in by the branch, and no doubt the greater part passes into the mouth; yet some of it enters the lung, and a current is thus established by which a very large quantity of the chloroform is rapidly expelled, as can be proved by the taste of the air coming through the tube. After two or three such inspirations the taste of the vapor becomes fainter, and as soon as this is noticed I reverse the process, now blowing air into the tube with force just sufficient to cause the chest-wall to move in the slightest possible degree—the branch tube being open all the time. Generally, after one or two such perflations, the heart shows signs of vigorous action, and shortly thereafter breathing commences and continues in a perfectly natural manner. Should it not return so rapidly, and after I am assured by the absence of taste or smell in the expired air that the chloroform has been almost entirely removed, then I close the branch tube and commence gentle inflation of the lung in the ordinary way. By such a method I have resuscitated animals as often as ten times after cessation of respiration, and in these I have little or no indication of the production of the pink froth to which I referred. Of course, in order to accomplish resuscitation so frequently as eight or ten times, it is necessary in the later stages to lose no time between cessation of movement and commencement of the effort; but the mere fact that it can be effected under any conditions so frequently, speaks strongly, I think, for the efficacy of the method. In the earlier resuscitations we may safely wait thirty or sixty seconds before beginning the attempt, provided the animal has not been for a long period under the influence of the vapor. The time occupied in the operation is much less when we begin before the heart has ceased to beat, but I have repeatedly waited until all indications of the heart's action had ceased, both as indicated by the apex beat and the pulsation in the carotid. But in such cases it has been an invariable experience that the heart resumed beating a considerable time before breathing commenced. Speaking broadly, as regards the difficulty of resuscitation as indicated by the time required to effect it, I have observed that *the time required to restore respiration varies inversely as the concentration of the dose, and directly as* *the time required to stop respiration.* That is to say, the more concentrated the dose, the easier was the reanimation, and the longer respiration continued under the action of the vapor the more difficult was the reanimation.

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HOSPITAL NOTES.

HOSPITAL AND ASYLUM PLANS.—A very good example has been set by Mr. James M. Moody, the superintendent, of the new asylum at Cane-hill, in the first annual report recently issued. He has there given "a general description of the situation, site, and plan of the building, organization of the staff, and arrangements generally." The Committee of Visitors also deserve a word of hearty commendation and acknowledgment for having sanctioned the publication of the ground plan of this asylum, to which special interest attaches because it has been built from plans prepared by the consulting architect to the Commissioner in Lunacy, Mr. C. H. Howell. We have it on the authority of Mr. Moody that experience tends to prove the excellence of the plan on which the buildings are erected, and the convenience of all the arrangements. Until recent years the hospital and asylum authorities throughout the country have neglected to keep or even to possess plans of their buildings, the drainage arrangements being a sealed book in many cases. During the last ten, and especially during the last five years, owing to inquiries which have been instituted, and to the wide interest which has been excited on the subject, the better managed institutions have had plans prepared for the use of the managers. To the present time, however, neither the Board of Lunacy, nor the Chancery Visitors, in England possess plans of all the establishments under their jurisdiction. In Scotland, the Board of Lunacy not only have the plans of all the Scotch asylums, but they have also prepared a model set of plans for the information and assistance of those authorities who find it necessary to erect new buildings from time to time. In this respect, as Lord Selborne truly said when he was Lord Chancellor, the English Board of Lunacy is sadly behind the age in which we live, and the practice of the Scotch Board ought to prevail without delay. The example set by the justices of the county of Surrey, in publishing a complete plan with their report, should be adopted by every committee of visitors, throughout the country, whether the buildings are old or modern. They would thus do a popular and politic thing, and by anticipating the action of Parliament would secure for themselves much credit.

In America many of the asylum authorities have published plans, but they are usually very imperfect in respect to many points of vital importance. In the European countries where these institutions are under municipal or national control, plans of every part of these buildings, and of all additions and alterations, are carefully preserved at the offices of the central authorities. In Belgium, France, Holland, and elsewhere this practice prevails, and it is time that the

English authorities, who are responsible for the management of asylums and hospitals, and especially the Lunacy Commissioners, should show at least equal public spirit in this matter. If every hospital and asylum committee would decide to publish a full plan of the buildings under their control, they would afford each other much useful service, and place the nation, and all interested in the proper treatment of the mentally and bodily sick, under no small obligation. Is it too much to hope that the superintendents, medical officers, and secretaries will take up this question and bring it before their committees, with the view to the adoption of the practice so usefully set by the magistrates of Surrey?

A word may now be said as to the information and plans it is desirable to give. The plans should include a ground or first-floor plan, and a block plan showing the whole area of the ground in occupation, and the system and arrangement of the drainage. These plans should show the date at which the various buildings were first erected, and each enlargement or alteration should be plainly marked. At first sight it may appear superfluous to add that a scale should accompany every plan, but, unfortunately, in the few instances where the plans have been published, no scale, as a rule, has been given. This fault is very frequently present in the plans of American hospitals and asylums. The elevation plans may make a pretty picture, but for practical purposes their absence will not be missed. The descriptive letterpress should give an account of the nature of the site, the cubic and superficial space per patient, and the day-room and dormitory allowance in asylums, the height and dimensions of the wards, the arrangement of the beds, and the aspects of the various blocks, together with a description of the heating and ventilating, the sanitary appliances, and every special feature to which importance may be attached. Everybody admits the difficulty of finding new or interesting topics when dealing with the yearly history of a public institution. Here, therefore, is a model and useful theme for hospital and asylum managers to dwell upon; and the reports of the year 1885, to be issued after Jan. 1, next, will be looked forward for with interest if the foregoing proposition is generally adopted, as it is hoped it will be.—*Lancet.*

SANITARY.

THE CHOLERA IN NEW ORLEANS IN 1832.—In a paper entitled "The Cholera Reminiscences of the Past, and Lessons for the Present," read before the executive committee of the Auxiliary Sanitary Association, New Orleans, Dr. W. H. Watkins gives the following pen picture, furnished at his request by Dr. John P. Davidson, which conveys the experience of himself, a practitioner of medicine at that time, and an eye-witness to the ravages of the dread disease:

"It was known here that Asiatic cholera had been introduced into Quebec, Canada, in the spring of the year 1832, I think in the month of May; and it was also reported that cases of the disease had occurred on board one or more ships which had arrived in the city of New York about the same period. The disease gradually spread from these two points in all directions, and it is probable that infected vessels arrived from Europe at other ports. Notwithstanding the great alarm prevailing throughout the country in anticipation of the advent of so fell a scourge, and the discussion of the subject in New Orleans, I cannot recollect that any sanitary precautions were adopted by the city authorities, or by the citizens themselves, beyond strewing lime pretty liberally along the gutters of the streets. No hospitals were extemporized, or other provision made, for the care of the sick, excepting the organization on the part of a number of young men of 'rubbing clubs,' who banded together in a laudable spirit of humanity to relieve the sick of the violent cramps by friction with a mixture of mercurial ointment, camphor, opium, and cayenne pepper. Yellow fever prevailed epidemically in New Orleans during the summer of 1832, but was soon displaced by the cholera. Toward the end of October, about the 22d of the month, possibly a few days later, for I write wholly from memory, an alarm was given early in the morning that two men had died during the preceding night of cholera, on the Levee, near the French Market. No little consternation ensued throughout the city, which was enhanced by the report that cases of the disease had occurred on two vessels just arrived from a northern port, and also on board of a steamboat said to have come from Cincinnati. That night my father was called to see a Mr. Rose, who was stricken with cholera while playing a game of whist, and who died before sunrise. On the following day cases of cholera were reported from several parts of the city, some quite remote from the foci related above. The rapidity of the spread of the disease to all parts of the city, among all classes of its citizens, was remarkable. One of the earliest victims was Mr. Savigny Blanc, who, attending the funeral of a friend, as he turned from the sepulture, asked the question, 'Who's next?' In a few hours he was a corpse. So very rapid was the extension of the disease, and so many were stricken down with an almost unparalleled fatality, that the wildest panic took possession of the populace.

"It became impossible for the physicians, many of whom were attacked with the disease, to minister to the vast number who sought medical aid, and so utterly overwhelmed were those who were well by the terrible scenes of suffering and death, that nothing like systematic care and nursing of the sick was possible. It is true that the 'rubbing clubs' heroically disregarded all personal risk and exposure, and manfully plied their frictions and massage wherever their services were available, and doubtless many a victim was rescued by their devotion and exertions. Their numbers, however, were soon thinned out by the fell destroyer, the gallant young Irishman, Launcelot Wolfe, among the number, and the organization ceased to exist. The ravages of the epidemic augmented fearfully day by day, and so great was the mortality and so inadequate the facilities for the care of the dead, that corpses remained in the houses for indefinite periods of time. No attempt at regular interments was possible. Men were employed by the authorities to cart away the dead; the bodies were heaped promiscuously in the carts, and the drivers, with a bag of camphor to their noses, rapidly conveyed their human burdens to the cemetery, dumping the loads just within its gate. No physician could drive in his buggy through many of the streets, for the sight of a vehicle of the kind announced his calling, and from every house he sought to pass men and women seized the reins and forced him to enter the house and prescribe for the sick. In these he would find an inmate just prostrated, others in collapse, and more who had passed into eternity. The weather throughout the prevalence of the epidemic was damp and misty, the sky overcast by clouds obscuring the sun—a fit shrouding of the city for the desolation and death pervading it in every quarter. Beyond a few bereaved mourners, who sought abroad relief from the drugstores and supplies from the grocers, the streets were almost wholly deserted. Stores and shops were closed, and the only vehicles to be seen were those bearing away the dead.

"When the work of desolation had attained its maximum, somewhere about a week or ten days from the irruption of the epidemic, the panic was at such a height that the city government—animated doubtless by the advice of leading citizens—anxious to dispel from the atmosphere the poison which seemed to lurk in its murky and dismal expanse, ordered cannon to be fired at short intervals at the intersection of the streets in the heart of the city, and barrels of tar to be burned in similar localities throughout the doomed city. Let the imagination dwell for an instant upon the scene of terror awakened by the booming of the cannon and the lurid heavens lit up by the fires enkindled in hundreds of places, with the columns of black smoke emitted by the burning tar hanging like a funereal pall over the city, and the picture becomes one of the most appalling the mind can conceive. That numbers of the critically sick perished under the shock conveyed by this mistaken effort to dissipate the mantle of the disease in which the city was enwrapped is beyond question; while the timid who were yet unassailed, and who might have escaped, fell under its influence through the terrors of the spectacle they witnessed.

"What pen is equal to a faithful description of the widespread desolation and horrors of the few days during which the cholera prevailed epidemically in New Orleans during its first visitation in 1832? A faint idea of them may be conceived when told that the unshrouded dead dumped at the gateway of the Girod Street Cemetery accumulated in such numbers that the entrance to its precincts was so obstructed that arriving bodies had to be deposited on the outside; no graves at this time could be dug; no coffins were procurable, for there were neither grave-diggers to be had or undertakers to be found. The City Council were forced to order out the chain-gang, 'prisoners' from the city jails, to dig a trench the whole length of the lower side of the cemetery. It was dug some twelve or fifteen feet wide, and as deep as the water-logged soil would permit. Into this receptacle the decomposing bodies were dragged by hooks from the fire companies, without the formality of precedence or order of any kind. As a part of the trench was filled, the earth taken from it was heaped upon the remains of the rich and the poor, the aged and the young.

"One striking incident may be related of the utter impossibility to regard the claims of the exalted to the common decencies of sepulture. The Attorney-General of the State died in the lower part of the city, and laid two days without removal. A friend, the late Charles Gardiner, of this city, obtained a hack, at an enormous price, to carry the remains to God's acre. The driver and himself placed the body in the hack, conveyed it to the Girod Street Cemetery, and left it on the ground amidst the heap of those who had preceded it to that common resting-spot. How many similar occurrences could be named! One more, and the veil must be drawn over so sad and painful a picture: The United States Marine Hospital, a portion of which still remains, was situated at the corner of Circus (now Rampart) Street and Poydras Canal, now Poydras Market. It was under the care of the late Dr. James S. MacFarland. He sickened with cholera, and the resident physician in charge, Dr. George W. Roe, and his assistant both died of the epidemic. The stricken inmates, to the number of thirty or forty, bereft of all care and supervision, died also, and their bodies after several days became so decomposed, that the City Council passed an ordinance to have the hospital burned, with the dead it contained; but the inhabitants residing in the immediate vicinity, fearing that the conflagration might extend to their dwellings, and no fire companies being available to protect them, petitioned the Mayor not to carry the ordinance into execution, they engaging to remove the bodies into the centre of a vacant square, upon a part of which the hospital stood, and there to burn them. This was granted, and the dead were drawn forth by hooks from the fire companies, and a funeral pyre was made of the fencing around the square and the bodies incinerated.

"The cholera prevailed epidemically for about twenty-one days; though, of course, scattering cases continued to manifest themselves for some time, like the reflex waves which follow a terrible tempest. The population of New Orleans at that time was estimated to be about 55,000 souls, and the mortality from the epidemic was computed at 6,000, fully a twelfth of the population. It may have been more, for I know personally that a number of bodies were cast into the river, no interment of them being possible, and these probably did not enter into the general estimate. How many of the laborers engaged in digging the New Canal in that year perished from cholera I have never positively known, but they were computed at 600. These, too, may not have been included in the record of deaths, as they died in their huts, made upon floating cypress logs and thatched with palmetto, at the point to which the canal had attained. The victims were, for the most part, Pennsylvania Irish, brought out by Mr. Simon Cameron, since a Senator from that State, who was the contractor to make the canal. When assailed by the cholera, these laborers crept into their palmetto huts, with a jug of whiskey, and died. Their bodies were drawn out and buried on the raised pathway of earth thrown up in digging the canal, and remain there still."

This account, Dr. Watkins says, resembling in its sad details those given of the ravages of the plague in London and elsewhere, and hardly exceeded by them in many of its features, must be regarded as the legitimate fruit of the total absence of municipal sanitary precautions, as well as domestic hygiene—so little understood at that day—the want of which left the city wholly unprepared to meet the visitation in a way to mitigate its force by wise health regulations and provision of hospital care for the indigent sick; all of which, if wisely instituted and faithfully carried out, would doubtless have shorn the epidemic of its virulence and abated the mortality, as well as begetting a calm and resolute co-operation of all citizens to prevent its spread.—*Sanitarian.*

HOW TO DISINFECT INFECTED DWELLINGS.—The following method of thoroughly disinfecting a room in which an infectious disease has existed is reported in the *Centralbl. f. Chirurgie*, No. 12, 1885, by Professor Rönig, who has successfully employed it for twenty years.

The windows of the infected room having been closed tightly, fifty to sixty grammes (one and one-half to one and three-quarter ounces) of corrosive sublimate are placed on a small shovel on burning coals; after that the person leaves the room immediately and closes the door. The sublimate evaporates rapidly and exposes the room to its vapors for three or four hours. Then the door is to be opened, and, covering nose and mouth with a piece of cloth, the person re-enters, opens the windows and closes the door again. The room having been thus ventilated for several hours, the possibly remaining sublimate vapors are to be rendered harmless by the burning of sulphur in the closed room. After repeated ventilation the room may again be occupied.—*Therapeutic Gazette.*

PHARMACY AND THERAPEUTICS.

A COMPARISON OF WEIGHTS, ETC., PREPARED BY REQUEST FOR CONVENIENCE OF READERS.

FRENCH WEIGHTS IN TROY WEIGHTS.

1 milligramme	equal to	1-65th	grain.
1 centigramme	"	1-6th	"
1 decigramme	"	1½	grains.
1 gramme	"	15	"
1 decagramme	"	150	"
1 hectogramme	"	1,465	"
1 kilogramme	"	14,720	"
1 myriagramme	"	145,824	"

FRENCH MEASURES OF LENGTH IN ENGLISH MEASURES OF LENGTH.

1 millimetre	equal to	1-1,000th	metre.
1 centimetre	"	1-100th	"
1 decimetre	"	1-10th	"
1 metre	"	39 37-100th	inches.
1 decametre	"	10	metres.
1 hectometre	"	100	"
1 kilometre	"	1,000	"
1 myriametre	"	10,000	"

FRENCH MEASURES OF CAPACITY IN ENGLISH MEASURES OF CAPACITY.

1 militre	equal to	15	troy grains	water.
1 centrilitre	"	150	"	"
1 decilitre	"	1,500	"	"
1 litre	"	(1 qt.) 15,000	"	"
1 decalitre	"	150,000	"	"
1 hectolitre	"	1,150,000	"	"

NOTE.—1 grain troy is equal to 1 and 8-100th grains in apothecary's weight.

TEMPERATURE AND WEIGHT.

1 lb. water at 60 deg. F.	equal to	75-100th pint, or 6,067 22-100ths minims.
1 oz. " "	equal to	1 5-100ths fl. oz., or 505 60-100ths minims.
1 gr. " "	equal to	1 5-100ths minims.
1 fl. drachm water at 60 deg. F.		56 96-100ths grains.
1 fl. oz. " "		455 69-100ths "
1 fl. gallon " "		231 cubic inches.
1 fl. pint " "		28 87-100 "

TEMPERATURES.

CENTIGRADE.—To convert Centigrade (C.) or Celsius to Fahrenheit—multiply by 9, divide by 5, and add 32. Thus: 40 deg. C. multiplied by 9 equal 360 deg.: divide by 5, equal 72 deg.: add 32, equal 104 deg. F.

REAUMUR.—To convert Reaumur (R.) to Fahrenheit—multiply by 9, divide by 4, and add 32. Thus: 40 deg. R. multiplied by 9 equal 360 deg.; divide by 4, equal 90; add 32, equal 112 deg. F.

PERCENTAGE OF ALCOHOL IN WINES, LIQUORS, ALES, ETC.

Strong Port 25, Madeira 24, Sherry 19, Malaga 17, Brandy 53, Rum 53, Gin 51, Whiskey 52 to 54, Burgundy, 14, Sauterne 14, Champagne 12 to 14, Tokaya 9, Rudesheimer 10, Catawba 8 to 10, Cider 6 to 9, Mead 7, Burton Ale 8, Scotch Ale 6, Brown Stout 6, Porter 4, Strong Claret 17, Chateau Latour 9, Hock 9 to 12, Lachryma Christi 19, Vin Ordinaire 10.

CAUSES OF FAILURE IN THE TREATMENT OF PHTHISIS BY HYPOPHOSPHITES.

(*For Gaillard's Medical Journal.*)

Antagonistic Influence of the Different Salts.—These will be best appreciated by reviewing their physiological action, as ascertained by the best authorities. In phthisis the salt of potassium is always dangerous, as its tendency is to produce rapid softening of the tubercular deposit, profuse expectoration, and, from its disintegrating action on tissue, increase emaciation and debility. It has been found useful in asthma depending upon chronic bronchitis, and in the latter disease; but its use should not be too long continued, or at least the the patient should be carefully watched lest he suffer from its excessive action. *Hypophosphite of Ammonium.*—This resembles the preceding in its general physiological action. It has been used by Dr. Churchill with great advantage in hepatic derangement, owing to its special stimulating effect upon the liver. It is however contra-indicated in phthisis for the same reasons which forbid the potassium salt, and probably for the additional one, that the ammonium compounds all excite the circulatory system, which render them dangerous in hemorrhagic states. The same writer considers this salt far superior to the muriate or carbonate as a laryngeal or faucial stimulant. As an expectorant it is peculiarly active. *Hypophosphite of Soda.*—This, as a rule, is indicated in the earliest stage of phthisis. It is quite mild in action, and is more apt to agree with patients than the others. Its effect is to mildly favor expectoration, and it is readily absorbed and utilized without disturbance, if confined to proper doses.

Hypoposphite of Lime.—This salt limits expectoration, but is more active than the soda, and, consequently, more apt to produce undesirable pathological effects when given without proper discrimination. It is relied upon in the last two stages of phthisis, though it should be given with constant watchfulness for untoward symptoms, the dose being regulated entirely by its effect upon the patient.

It frequently diminishes the expectoration too rapidly, causing cough; under these circumstances the soda should be temporarily resorted to.

In cases of phthisis, when diarrhœa is a symptom, or when the patients are children or pregnant women, the lime is usually preferred. "The effects produced by both the soda and the lime salts in phthisis have such a character of constancy," says Dr. Churchill, "that I have seldom thought myself justified in intermitting them or supplying their place by any other."

Hypophosphite of Quinia.—This is useful when the soda or lime salt is found too active. It is well adapted to advanced cases, its use to be continual until the patient can bear one of the two previously mentioned salts. It is also useful in the *incipient diarrhœa* of phthisis, in that of young children, and occasionally to modify the character of the expectoration.

Hypophosphite of Iron is rarely, if ever, indicated in phthisis, because

1st. The anæmic condition is fully met by the soda or lime salt alone; and,

2d. Because it increases the tendency to hemorrhage. It is true that plethora is produced by the soda or lime salt also, but when these are taken in proper doses, this is a physiological effect, the result of an increase in the general functional action, and is obtained by a healthful process of nature acting under the stimulus of the phosphorous element in the salt; whilst that produced by the former is caused by the base (iron), which suddenly increases the circulating impulse beyond the resisting power of the enfeebled blood vessels to withstand, and hence hemorrhage results.

Hypophosphite of Manganese.—This acts similarly to the iron salt, with the additional effect of specially exciting the biliary secretion. It has been found a valuable hepatic stimulant in chronic inaction of that organ, and has recently proven useful in dipsomania in the hands of Dr. W. H. Bentley (see *Medical Summary*, September, 1885, p. 122).

It will thus be seen that the several hypophosphites differ materially from each other in their physiological effects, so that it is almost certain that harmonious action cannot be expected from combinations.

In the treatment of phthisis by the hypophosphites, the first requirement is the assimilation of phosphorus in the condition of oxidation found in the hypophosphites.

The second is to select a salt the base of which is best adapted to the existing state of the patient.

The third, to avoid combinations which, by mutually antagonizing effects, will not only neutralize the advantageous results expected, but do positive injury by subjecting the already feeble patient to the unnecessary action of medicines not indicated.

The fourth, to use the hypophosphite salts in a *chemically pure* condition, as all experimenters who have been successful in their use now acknowledge to be an absolute necessity. This requirement is so important that it should really have been placed the first on the list.

From what has been previously said, it will be seen that great discrimination must be used in the selection of the properly indicated salt. A rule without an exception cannot be laid down, but the lifelong experience of Dr. Churchill, who has experimented extensively with each of the hypophosphites, under conditions which gave him complete control of his patients and their surroundings, has demonstrated, to use his own language, "Of the hypophosphites, the only ones that should ever be prescribed in phthisis, except under certain rare and peculiar circumstances, are those of lime and soda, and occasionally of quinine."

Even these ought not to be combined, as the action of each is distinctive, and each would be separately indicated.

Another most important consideration is the regulation of doses. Any one of the hypophosphites will prove dangerous, even perilous, if given too freely, producing hemorrhages, rapid softening of tubercular deposit, and a more speedy death than would ensue from the natural progress of the disease, this being the result of their *toxic action.*. Their *physiological action* can only be safely attained by slow degrees and by small doses (in phthisis from one to seven grains only per day), the use of a single salt at one time as may be indicated, the suspension of this treatment entirely during acute complications (to be resumed upon subsidence of acute symptoms of such complication), total abstinence from the use of alcoholic beverages, anodynes, and narcotics, cod liver oil, iron and metallic salts, tonics in general, and in fact all other treatment whatever except, as has been mentioned, that for complications.

The remedy should be continued two or three months after the disease is apparently overcome, in smaller and less frequent doses, as a prophylactic; and, inasmuch as the hypophosphite is a remedy for the diathesis and not the local disease, the patient should be instructed to use the remedy occasionally in after life to prevent a recurrence of the conditions liable to result in the return of the original disease.

The above matter is not claimed as entirely original, but simply a compilation of facts from various medical authorities, mainly Churchill, showing the necessity for a new and more scientific method of using these important remedies than has usually been adopted.

R. W. GARDNER.

THE VALUE OF THE CHLORIDES IN THE COMPOSITION OF MINERAL WATERS.—Although many of the natural saline waters now in common use act in a very satisfactory way when given as temporary cathartics, it has come to be understood by the best authorities on therapeutics that, in order to be of service when habitually employed, a water should have the chlorides as an important element among its constituents. These, it is held, exert a most important function in promoting tissue-change by their action in causing oxidation of albumen and the consequent increased formation and elimination of urea. On account of their stimulating effect, when combined with the sulphates, deleterious agents resulting from the incomplete or deranged action of the digestive organs, and which are liable to contaminate the blood to a greater or less extent, with the most unpleasant results, are promptly gotten rid of, and the healthy functions of the system gradually become restored. The Friedrichshall bitter water is especially rich in chlorides, the latest analysis showing it to have 246.24 parts in 10,000 of chloride of sodium, 120.96 parts of chloride of magnesium, and 13.76 parts of chloride of potassium. On this account it can be given with impunity for months and even years, when requisite; and it has been found in practice that instead of its being necessary to increase the daily quantity taken, the dose can gradually be more and more diminished. It is, apparently, a thoroughly satisfactory tonic-aperient. In the case of many of the purgative waters, on the other hand, into whose composition the chlorides do not enter conspicuously, it is well known that their physiological and therapeutic activity becomes impaired by continued use, requiring a constant increase in the dose; while in numerous instances positively harmful effects are produced upon the system.

One of the most recent clinical reports as to the value of Freiderichshall water is furnished by Dr. Alfred S. Gubb, Resident Medical Office of the French Hospital, London, who states that he has lately used it somewhat extensively, both in private and hospital practice, with very encouraging results. In one series of cases he employed it simply as a corrective of habitual constipation. He administered it in doses of from half a tumbler upwards, taken early in the morning, and combined with an equal proportion of hot water. From his experience it seemed to him an admirable laxative, well fitted for all ordinary cases, and particularly for persons of delicate constitutions, for women, and for all persons in which the object is to produce an aperient effect which should not be drastic or cause constitutional disturbance. When its use was abandoned for a time, the constipation recurred only very gradually, when its regulating action on the intestines had given place to the habit of body or errors in diet which produced the tendency to constipation in the first instance. He has found it of special service in cases of hemorrhoids accompanied by habitual constipation, in hepatic congestion, and in the constipation of pregnancy (in which, as was stated in the August number of the JOURNAL, Dr. Fordyce Barker has long used it with the happiest results), and says that in all cases when the object is to lessen venous congestion by gentle and continuous means this water is peculiarly indicated, and is perhaps without an equal.

It has been used in a great variety of conditions by different authorities; and in the *Medical Times and Gazette* of September 19, 1885, Mr. Walter Pye, F. R. C. S., Surgeon to St. Mary's Hospital, and the Victoria Hospital for Children, London, publishes a very interesting clinical report on its effects, in small continuous doses, in rickets, glandular swellings, and other disorders of childhood. The result of his experiences is to the effect that for young children, as a purgative, Freiderichshall will probably be found to be preferable only in exceptional cases to the common vegetable laxatives; but that when it is desired to produce some definite alterative effect upon a disorder of growth, nutrition, or the like, we have in its saline ingredients an efficient means of quickening tissue-changes throughout the body, and especially of improving the condition and work of the lymphatic glands, and of the liver. Its effect, also, in regulating the action of the intestines in the colicky attacks which are so common in diseases of nutrition, such as rickets and congenital syphilis, is very marked. Having stated that in almost every instance it was found to be desirable to lessen the dose after the first week or ten days, he proceeds to give in abstract the notes of fifteen cases of the character indicated, in all of which, with the exception of two, it was given with the most satisfactory results.

USEFUL COUGH MIXTURE WITHOUT OPIUM.

℞	Bromide Potassium	1 ℥ av.
	Tincture Sanguinaria (blood root)	3 fl. ℥
	Tincture of Hyoscyamus	2 fl. ʒ
	Ether (Sulphuric)	½ fl. ℥
	Syrup of Ipecac	2 fl. ℥
	Syrup of Tolu	7 fl. ℥
	Alcohol	1 fl. ℥
	Water	3 fl. ℥

Dissolve the bromide of potassium in the water, and mix the solution with the syrups. Mix the alcohol with the ether and tinctures, then add the mixture to the syrups and mix.—*Weekly Drug News.*

REMEDY IN ACUTE CORYZA.—

℞ Pulv. Camph. - - - ʒj.
Chloroform - - - - ʒj.
Acidi benzoic - - - ʒss.
Adipis - - - - - ℥j.

To be applied *ad libitum* in the nostrils with the little finger. *Dr. A. F. Samuels in the Weekly Med. Rev.*

FORMULÆ selected by *The Medical Age.*

For Asthmatic Attacks.

Professor Roberts Bartholow has found the following an excellent combination:

℞ Ext. Grindeliæ Robustæ, fl. ℥ ss
Ext. Lobeliæ fluidi, ʒ ij
Ext. Belladonnæ fluidi, ʒ j
Potassii Iodidi, ʒ iij
Glycerini, ℥ iij
M.

Sig.—A tablespoonful as required.—*College and Clinical Record.*

Salicylic Paste for Eczema.

The following is known as Lassar's Salicylic Paste, and recommended as an application in eczema, both papular and squamous:

℞ Acid, Salicylici, gr.ij to jv
Vaselini, ʒ j
Zinci Oxydati
Amyli, aa, gr.xxv
M. et. ft. pasta.

A Diuretic Mixture.

℞ Spts. Juniperis co., Oj
Ferri Sulphatis, ʒ ij
Potassii Acetatis, ℥ ss
Ext. Digitalis fluidi, ʒ ij
Syr. Scillæ, ℥ ss

M. Sig. A tablespoonful three times a day.—Dr. Joseph Mullone, *N. Y. Medical Journal.*

For Pruritus Ani.

℞ Acidi carbolici, gr.xx
Tr. Opii, ʒ iv
Acidi Hydrocyanici dil., ʒ ij
Glycerini, ʒ iv
Aquam, q. s., ad., ℥ jv

M. A pledget of lint saturated with this should be worn in the anus. *British Med. Journal.*

For Common Colds.

Professor Roberts Bartholow recommends the following:

℞ Coldeiæ, gr.j
Syr. Scillæ Comp.
Syr. Tolu, aa, ℥ ss
M. Sig. A teaspoonful p. r. n.

Injection for Chronic Cystitis.

℞ Ext. Hydrastis Canaden. fl., ʒ ij
Sodii Bicarbonatis, ʒ j
Glycerini, ℥ ij
Aquam q. s. ad., Oj
M. —*Medical Digest.*

BIOGRAPHY.

WILLIAM BENJAMIN CARPENTER.

William Benjamin Carpenter, M.D., LL.D., F.R.S., F.L.S., F.G.S., the eminent English physiologist and writer on scientific subjects, died in London November 9th, from the effects of terrible burns caused by the upsetting of a lamp while he was taking a vapor bath for rheumatism. Dr. Carpenter, who was in the seventy-third year of his age, was a son of Dr. Lant Carpenter, and was born at Bristol in 1813. He studied medicine, and was graduated M.D. from the University of Edinburgh in 1839, when he began the practice of his profession in Bristol. He soon resolved, however, to devote himself wholly to scientific and literary pursuits, and in 1843 he removed to London, where his writings at once attracted attention, and he was appointed Examiner in Physiology and Comparative Anatomy in the University of London and Professor of Medical Jurisprudence in University College. He held these positions until 1856, when he was appointed Registrar of the University of London. In 1861 the Council of the Royal Society awarded to Dr. Carpenter the royal medal for his contributions to physiological science. From 1868 to 1870 he took a principal part in the expeditions fitted out by the Government of Great Britain for the exploration of the deep sea, which yielded results of the greatest value to physical and biological science, and it was at his suggestion that the Challenger was afterward dispatched to prosecute similar researches more extensively. The honorary degree of LL.D. was conferred upon him by the University of Edinburgh in 1871. Among his more widely known scientific works are: "The Microscope and its Revelations," "Principles of General and Comparative Physiology," "Principles of Human Physiology," "A Manual of Physiology," "Principles of Mental Physiology," and an "Introduction to the Study of the Foraminifera." He was the editor for many years of the *British and Foreign Medico-Chirurgical Review.*

CHARLES PHILLIPE ROBIN.

The founder, and for a long time the leader, of the French school of histology, Professor Charles Robin, died on Tuesday last of apoplexy, at the age of sixty-four. The history of Professor Robin was for a long space of time the history of medical microscopy itself, and he stood prominent as the representative of that branch of study, in opposition to Velpeau and other practical and clinical teachers, who endeavored to cast ridicule upon the microscope and histology as viewed in relation to medical science. The triumph of Robin appeared complete, when, in 1861, a chair of histology was created at the Faculty of Medicine, of which he became, of course, the first occupant. His success was great at first, but he soon became unpopular with the students on account of his extreme severity as an examiner; while on the other hand, the clerical party, then predominant, were incensed at the so-called materialistic tendencies of his lectures and writings. The combination of these two hostile forces led to violent scenes, in which the Professor was hissed, abused, and prevented from speaking. At a later period he regained his popularity through the petty persecutions of the clerical party, which, among other annoyances, excluded him from the list of persons qualified to sit upon a jury, although at this time Robin was unquestionably one of the most celebrated men of science in Europe. He had become, in spite of strenuous opposition, a member of the Institute in 1866. When the Senate was created, in 1870, Robin was named a Senator by his native department (Ain). He remained a member of the Assembly till his death, although in politics, like many scientific and literary celebrities, he was content to play a dumb part. Indeed, both his qualities and defects made him unfit to play the part of a Demosthenes; he had neither the eloquence nor the assurance which are the stamps of the political orator, and which are seldom developed by a severe process of scientific training. Robin was one of the chief disciples of Auguste Comte, and one of the founders of the celebrated *Société de Biologie*, along with his intimate friend Claude Bernard. He was also closely connected with Littré, and became with him one of the joint editors of the *Dictionnaire de Nysten*, which, although in the beginning a mere vocabulary of words employed in medical science, became a stumbling-block to orthodox believers, and a sort of gospel to the followers of positivism, through the extreme boldness of some of its definitions, those for instance, of *Ame*, *Homme*, and a few others of the same description. In private life Robin was a most amiable and disinterested man. All his pupils were much attached to him, and he will be sincerely regretted by his numerous friends. The Chair of Histology at the Faculty of Medicine, left vacant by Robin's death, will probably be disputed by numerous candidates, among whom the most prominent are Drs. Lancereaux and Mathias Duval and Professor Ranvier.—*Medical Times*, October 10, 1885.

PROF. RICHARD McSHERRY, M.D.

We are rarely called upon to chronicle the death of any one whose loss is so universally felt and deeply regretted as that of Dr. McSherry. His position in this community was a singularly enviable one. He was the representative of all that is cultivated, dignified, and honorable in the medical profession, and combined in an unusual manner the skill, experience, and learning of the physician with the tact, grace, and amiability of the gentleman. To the wealth of information, derived from a life of study, he added large stores of practical experience gathered in many parts of the earth, as army and navy surgeon, as well as in an extensive practice in Baltimore. His lectures were clear, concise, and practical, not unfrequently adorned with apt classical quotation or seasoned with crisp humorous anecdote. Students were always attracted by his genial, kindly nature, and felt no hesitation in laying their troubles before him, and whether the plea was for professional information or for relief in personal difficulties, none left him without feeling an increase of that affectionate and grateful regard in which he was universally held. He was particularly kind and considerate towards the younger members of the profession, and while he always had the courage of his convictions, no one who knew him ever entered the consultation room with him in the fear of any of those unmanly methods which sometimes make consultations odious. He was always fair and honorable, and a meeting with him was often of as much advantage to the doctor as to the patient. In religion he was a devout Catholic, and though he clung to his faith with noble consistency, he always manifested the greatest liberality toward those who were not of the same ecclesiastical household. He lived a singularly pure and blameless life, and met death with the same unflinching fortitude he had shown in the contingencies of life.

Dr. McSherry was born at Martinsburg, W. Va., November 21st, 1817. He received his classical education in Georgetown College, and studied medicine in the University of Pennsylvania, where he received his degree of M.D. in 1841. He entered the medical corps of the army early in life, and served under Gen. Taylor in the Seminole war. Leaving the army in 1843 he entered the navy, where he remained for nine years, serving in the East and West Indies, North and South America, and making a cruise round the world in the old "Constitution." In Gen. Scott's campaign in Mexico he served as surgeon to a battalion of marines. He resigned from the navy in 1851, and came to Baltimore, where he established a practice which continued until his last illness. He was elected Professor of Materia Medica and Therapeutics in the University of Maryland in 1863, which chair he filled until 1865, when, upon the death of Professor Samuel Chew, he was made Professor of Principles and Practice of Medicine. He was president of the Medical and Chirurgical Faculty of Maryland in 1883, and was one of the founders and the first president of the Baltimore Academy of Medicine. At the time of his death he was president of the Maryland State Board of Health. Dr. McSherry was a writer of no ordinary ability, and his varied experience gave him ample opportunity for the use of his talent. During the earlier part of his career he wrote much on surgical subjects, but his later articles are more generally upon the topics of practical medicine and sanitary science. He continued until within a few months of death to be a contributor to the pages of our best medical and sanitary journals. His writings were not confined to professional subjects. In 1850 he published "El Puchero, a Mixed Dish from Mexico," embracing some account of Gen. Scott's campaign, with sketches of military life, etc., and in 1869 a volume of "Essays and Lectures on Various Occasions." (Early History of Maryland; On Mexico and Its Affairs; Hygiene, Health, and Happiness.)—*J.E.M. in Maryland Med. Journal.*

ORIGINAL CORRESPONDENCE.

A MISAPPREHENSION CORRECTED.

To the Editor of Gaillard's Medical Journal.

My DEAR DR.:

Will you permit me to state, through your widely circulated journal, that I was in no wise responsible for the publicity given through the daily newspapers to an operation performed in September by myself, in the New York Charity Hospital. I feel that it is unnecessary to state this to my professional friends in New York, among whom I have lived and practiced more than ten years; yet, in the interest of the ethics of our profession, I feel that it is due those living without the limits of New York, who cannot so well comprehend how easy it is for an operation to reach reporters when an accidental element of fire adds sensation to the operation.

I beg to remain, yours sincerely,

19 Park Avenue, New York, Nov. 17, 1885. THOMAS H. ALLEN.

[It is with great pleasure that the above note is inserted, as there can be no doubt that great injustice was inadvertently done an accomplished and honorable member of the profession, in a former number of the JOURNAL. The "accidental element of fire" to which Dr. Allen alludes, has reference to the fact that on the occasion in question the ether used in the operation caught fire, and it was this which attracted the reporters' attention to it.—ED.]

◆

REVIEWS.

AN ATLAS OF CLINICAL MICROSCOPY. By ALEXANDER PEYER, M.D., Translated and Edited by Alfred C. Girard, M.D., Assistant Surgeon United States Army. First American, from the Manuscript of the Second German Edition, with Additions. Ninety Plates, with One Hundred and Five Illustrations, Chromo-Lithographs. New York: D. Appleton & Company, 1885. Pp. xiv. 194.

The translator states in his preface that while in Europe in the summer of 1884 he met with a new work entitled, "Microscopie am Krankenbette," by Dr. Peyer, of Schaffhausen, which was favorably commented on in the medical journals. He found that the plates were most excellent, and that, with a few additions needed, owing to the fact that relatively too much space was given to examination of the urine, a translation and republication of it in this country would supply a want in American medical literature, and, by giving a reliable work of reference, facilitate and encourage the use of the microscope in the diagnosis of disease. He accordingly visited Dr. Peyer, and induced him to prepare fifteen additional plates to complete the work for the purposes designed.

In the preface supplied to the present edition the author thus speaks of the origin and character of the work: "After five years' attention to a considerable practice, I determined on revisiting the university in order to fill certain gaps in my knowledge. While engaged in the practice of medicine, I had recognized the necessity for a physician to become familiar with the microscope if he made any pretension to scientific treatment. One of my friends, assistant professor at the university, with whom I frequently used the microscope, advised me always to draw my microscopic preparations, because it instilled the habit of more carefully observing. On my return to my professional labors, I continued this drawing, which had become a pleasant habit, and in a few years I obtained thus a collection of four hundred microscopical drawings. Many of my preparations were new to me, and I was the more particular in making a faithful drawing. For instance, I had long drawn the crystals in the sputum of asthma, and the so-called testicle-cylinders, before learning that others had observed them, and I was confirmed in my resolution to publish my drawings in their present shape mainly by the consciousness that their origin represented, more than any other book of the same character, the wishes and needs of the practitioner."

The scope of the work as now presented to the profession will be seen from the following brief analysis of its contents: The first chapter treats of the examination of the blood, the plates including representations of poikilocytosis, or unusual richness in modification of the red blood-corpuscles, leukæmia, pigmented cells, anthrax bacilli, and recurrent spirils; the last two being the only parasites which have as yet been positively demonstrated in the blood. The second chapter treats of the examination of the mammary secretion, and the plates show the appearances of colostrum, normal milk, milk secretion in mastititis, and mammary secretion in chronic disease. The third chapter treats of the examination of the urine, and is illustrated with no less than sixty-four plates, among the substances and conditions represented being accidental foreign bodies, mucus from difficult stool, urine indigo, cystine, blood and pus corpuscles, hyaline cylinders, waxy casts, bacteria, passive hyperæmia of the kidneys, acute and chronic parenchymatous nephritis, hemorrhage of kidney, acute pyelitis, acute and chronic vesical catarrh, chronic urethritis from masturbation, secretion of accessory genital glands during erection, spermatorrhœa under various circumstances, and spermatic fluid in azoospermia.

The fourth chapter treats of the microscopy of expectoration, and the plates include accidental constituents of expectoration, mucous bronchial plugs, chronic bronchitis, bronchiectasis, pulmonary hemorrhage, elastic fibres in phthisis, tubercle bacilli, pulmonary gangrene, and abscess of the liver with perforation through the lungs. The fifth chapter treats of the microscopy of the stool, the plates including intestinal worms, with ova, and cholera. The sixth chapter treats of the microscopy of the contents of the stomach, in which the plates give representations of the vomit in chronic gastric catarrh and an echinococcus. The seventh, eighth, and ninth chapters are exceedingly brief, aud are devoted to the examination, respectively, of the fluid of abdominal tissues, with plate showing contents of an ovarian cyst, of the secretion of the female sexual organs, with plate showing leucorrhœa with pruritus vaginæ of pregnancy, and of various micro-organisms provoking disease, with representations of the capsular micrococci of pneumonia, bacilli typhosi, Peyer's placue, cells of micrococci from pus (pyæmia), and pus-cells and clusters of micrococci from gonorrhœal secretion.

The work being intended principally as a microscopic atlas, the text is very concise, the author's aim being to mention only what is to be borne in mind by the physician making the examinations. In regard to tuberculosis of milk, he says: "This was a fact of great interest to physicians years before the discovery of the tubercle bacilli, it having been observed several times that the milk of tuberculous cows induced phthisis in the human being. The view expressed then, that milk may be the bearer of tuberculosis, has been confirmed by the tubercle bacillus, which has also been demonstrated in the milk." The chapter on the urine is very complete, and includes a description of its general character and the chemical, as well as the microscopic, examination. In the chapter on the microscopy of the expectoration, the author says very truly that the demonstration of tubercle bacilli by Koch in the sputum of phthisical persons is one of the most important diagnostic discoveries of the present age. The bacillus of tuberculosis, he goes on to state, exists not alone in general tuberculosis, but also in cases where the disease remains localized for a long while, and finally disappears. We have learned thereby that such light and benign cases, which formerly we tried to separate from genuine tuberculosis, really belong to this disease; that by the discovery of the bacilli we are enabled to make a diagnosis of tubercular disease in the lungs in those light cases also where formerly it was impossible. That such favorably resulting tubercular diseases are very numerous can be established at the post-mortem table, and he asserts that one-half of the robust individuals who had died from accidental sickness show in their lungs traces of tubercular disease in the form of cheesy masses, often incrusted with lime, and surrounded by slate-colored, indurated cicatricial tissue. The value of the microscopic examination of the stool is shown by the fact that by this means we can discern, as for instance in a case of chronic diarrhœa, whether animal or amylaceous food is best digested, and prescribe the diet accordingly. In like manner, by the microscope only can be detected the eggs of intestinal parasites, which so often are the unrecognized cause of disease of the bowels.

Dr. Peyer gives the following instructive account of the characteristics of the contents of ovarian cysts, which will probably be generally accepted as substantially correct:

With the microscope we find in the liquid of an ovarian cyst, almost constantly, almost pathognomonically, *cells* (1) measuring five to thirty μ., with a granular appearance, and frequently with plainly distinguishable fat-globules; occasionally *cholesterin crystals* (2), well crystallized; *leucocytes* (3), *red blood* *corpuscles*, *fat-globules* (4); colloid concretions (5) in cysts with inspissated contents (they have an irregular shape, are homogeneous, and of a pale yellow color); *detritus* (6) in cysts which have repeatedly been punctured; *ciliated cells* (7), important for differential diagnosis from ascites, lining the walls of the cyst; *pavement epithelium* (8) is not of diagnostic value, the serous membranes having the same lining.

The plates, which are on very heavy paper, are all beautifully executed, and as the type is large and clear, the whole appearance of the book is most attractive.

TRANSACTIONS OF THE TEXAS STATE MEDICAL ASSOCIATION, SEVENTEENTH ANNUAL SESSION. Held at Houston, Texas, April 21, 22, 23, 1885. Austin, Texas: Printed for the Texas State Medical Association, 1885. Pp. 430.

The Texas Association is certainly to be congratulated on the very handsome appearance which its volume of Transactions this year presents. The matter contained in it is also well worthy of its attractive setting, and shows in a very satisfactory manner what excellent work this active society is doing. Soon after the meeting in April a report of the proceedings was published in the JOURNAL, including a considerable portion of the admirable address of the president, Dr. Henry C. Ghent; but the number of scientific papers presented was so great that they could be referred to by title only. Some analysis of the more important of these would, no doubt, prove interesting and profitable; but unfortunately, the pressure upon our space at present precludes the possibility of this. Two or three of them only can be briefly alluded to.

A paper of special interest to those belonging to the State, was that of Dr. S. H. Stout, of Cisco, on "Observations of the Influence of the Climate and Modes of Living of the People of Northwestern Texas, in the Production and Modification of Disease." Dr. F. T. Paine, of Comanche, reports very excellent results from the use of a new sexual sedative, salix nigra (the common willow-tree of the Southern rivers), in the treatment of masturbation, excessive venery, spermatorrhea, and ovarian disease. He employs the fluid extract of the aments or floral buds of the tree. Dr. O. L. Williams, of Chapel Hill, speaks in the highest terms of the continued use of iodide of potassium in typho-malarial fever. While visiting his brother in Hill County, Texas, he was impressed by his convictions of the value of the iodide in this affection. He claims for it almost specific properties when properly administered, and, so far as the writer knows, the treatment is original with him. Dr. Williams mentions quinine in the treatment of this fever, he says, only to condemn it.

Dr. R. G. Williams, of Whitney, also has a paper advocating the use of iodide of potassium in continued fever, which he says he formerly regarded as typho-malarial. Dr. C. M. Ramsdell, of Lampasas, reports ten cases of spider bite. They show plainly, he says, that the poison of the spider is a quickly acting poison, affecting the system generally, through the nerve-centres as well as locally. It is a powerful depressant to the heart, and, while not affecting the surface of the body to any great extent, it causes intense pain in the deeper structures where it is carried by the blood-current. The action of soda, in a few of the cases where it was applied immediately, seems to show that the poison is an acid which the soda has the power of neutralizing. The indications for treatment in spider bite are rest, large doses of morphia, powerful cardiac stimulants, diuretics, and purgatives. He has seen no fatal cases, but thinks that some of those described might have resulted fatally if left to themselves.

In a paper on the treatment of organic stricture by electrolysis, Dr. A. F. Sampson asserts that the results which he has gained in a few years' experience warrant him in preferring this to any other method. In speaking of what has been accomplished with it by Dr. Robert Newman, of this city, to whom he states that Prof. Bartholow, in his recent work on medical electricity, gives the palm of priority, he says: "So thoroughly has Dr. Newman identified himself with this method of treating strictures, that we do deserving honor in styling it the Newman process."

ACNE.—ITS ETIOLOGY, PATHOLOGY, AND TREATMENT. A Practical Treatise, Based on the Study of 1,500 cases of Sebaceous Disease. By L. Duncan Bulkley, A.M., M.D. New York: G. P. Putnam's Sons, 1885.

The term acne is restricted in its application by nearly all dermatological writers to an inflammatory affection of the sebaceous glands. The author of the work before us has seen fit to depart from common usage and has included all of the sebaceous affections under one head. Seborrhœa, comedo, milium, and sebaceous cysts, which are usually regarded as distinct affections, we now find grouped as forms of acne.

The book, which was originally "intended to be only a practical work," has been considerably increased in size by the introduction of chapters on the anatomy and physiology of the sebaceous glands, bibliographical references and statistical tables, until it now appears as a far more pretentious volume of 280 pages. The exhaustive and valuable chapter on Etiology, by the courtesy of Dr. Bulkley, has already been published from advanced sheets in the JOURNAL.

The work is based on extensive experience and a careful study of cases. It is well written and contains a large amount of curious and interesting matter, as well as much that is of practical value. One of the most striking features of the book consists in the original pathological drawings made by Dr. George T. Elliot.

The therapeutics of the various conditions described are discussed at length and will doubtless interest and instruct the majority of readers, although this part of the work is somewhat marred by repetition.

In the formulary given in the concluding chapter, the translation of the old weights and measures into the metric system is of no conceivable value. Had the prescriptions been written in parts, the whole amounting to one hundred, the *percentage* of each ingredient would have been seen at a glance, and by so doing the sole advantage of a decimal system would have been made apparent.

EPITOME OF DISEASES OF THE SKIN. Being an Abstract of a Course of Lectures Delivered in the University of Pennsylvania during the Session of 1883 and 1884. By LOUIS A. DUHRING, M.D., Professor of Skin Diseases. Reported by Henry Wile, M.D., Clinical Assistant in the Department of Skin Diseases in the University Hospital. Philadelphia: J. B. Lippincott Company, 1886. Pp. 130. Price, 60 cents.

These lectures, sixteen in number, were given before the graduating class of the University of Pennsylvania, and were originally published in the present abstract form in *The Medical News*. The high reputation of Professor Duhring is sufficient guarantee that this little book is all that a work of the kind should be. As is stated in the preface, it can in no degree take the place of the more complete works on diseases of the skin; but for the purpose of ready reference it is admirable. The whole range of cutaneous affections, as well as those of the appendages of the skin, is succinctly reviewed in as satisfactory a manner as is possible in the limits prescribed, and the characteristics, etiology, pathology, and treatment of each rapidly sketched out.

POST-MORTEM EXAMINATIONS, WITH ESPECIAL REFERENCE TO MEDICO-LEGAL PRACTICE. By PROF. RUDOLPH VIRCHOW, of the Berlin Charité Hospital. Translated by T. P. Smith, M.D., Member Royal College of Surgeons of England. With Additional Notes and New Plates. From the Fourth German Edition. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 138.

This manual, as would naturally be supposed from its source, is very thorough and of the greatest possible practical value. In the introductory chapter Professor Virchow gives an interesting account of his early experience as prosector in the dead house of the Berlin Charité Hospital, and traces the subsequent development, under his auspices, of a systematic method of conducting post-mortem examinations in Germany. He afterwards criticises, explains, and illustrates the regulations which have been promulgated throughout that country for the guidance of medical officers in performing autopsies and drawing up reports, and also gives several interesting cases in which the post-mortem examinations were performed by himself, the order of sequence enjoined by the regulations being closely adhered to. As the translator remarks, an examination of these cases will show that nothing has been omitted which could throw any possible light on the cause of death.

At the end of the work are appended the official regulations for the guidance of medical jurists in conducting post-mortem examinations for legal purposes, which were presented by the Royal Scientific Commission for Medical Affairs of Germany, and duly approved by the Minister for Ecclesiastical, Educational, and Medical Affairs in 1875; so that their observance is obligatory upon all medical officers who may be concerned. It is greatly to be regretted that some such scheme is not in force in this country.

In making ordinary autopsies, as well as those of a medico-legal nature, the book is a reliable guide. There are four excellent plates, three of which represent the incision and exposure of the cavities of the heart.

THE PHYSICIAN'S VISITING LIST FOR 1886. Philadelphia: P. Blakiston, Son & Co.

This is the thirty-fifth year of the publication of this popular and admirable visiting list, to which, as previously remarked in this journal, after all the trials made, there are none found superior. Its contents embrace a calendar, table of signs, Marshall Hall's ready method in asphyxia, poisons, and antidotes, the metric system of weights and measures, posological table (rewritten in accordance with the last revision of the U. S. Pharmacopœia), a more complete table for calculating the period of utero-gestation, list of new remedies for 1885–6, Sylvester's method for artificial respiration, diagram of the chest, and blank leaves for visiting list, monthly memoranda, addresses of patients, nurses, and others, amounts asked for, memoranda of wants, obstetric engagements, record of births and deaths, general memoranda, etc. The book is gotten up in different sizes and styles, and the price varies from $1.00 to $3.00.

OFFICIAL FORMULÆ OF AMERICAN HOSPITALS. Collected and arranged by C. F. TAYLOR, M.D., Editor of the *Medical World*. Published by the *Medical World*, Philadelphia. Pp. 238. Price, $1.00.

The author has gone to great pains in securing these formulæ from all the various hospitals throughout the country, and the resulting work is, no doubt, as complete as it is possible to make such a collection. Among the hospitals from which they were obtained are the Hospital of the University of Pennsylvania, the Episcopal Hospital, Philadelphia; the Philadelphia Hospital, the Pennsylvania Hospital, the Children's Hospital, Philadelphia; the Jefferson College Hospital, Philadelphia; the New York Hospital, the Roosevelt Hospital, New York; Bellevue Hospital, New York; Charity Hospital and Insane Asylum, Blackwell's Island; Hart's Island Hospital; Infants' Hospital, Randall's Island; the Long Island College Hospital, Brooklyn; the Boston City Hospital; the Massachusetts General Hospital; the Chicago Marine Hospital; the Cook County Hospital, Chicago; the St. Louis City Hospital; the Cincinnati Hospital; the Maryland Woman's Hospital; the United States Marine Hospital, San Francisco; and the United States Naval Hospital, Washington. As these formulæ are in actual use in these institutions, they are to be regarded as having been found by experience to be of special practical value. They contain, of course, many combinations of standard remedies, which have been handed down from former generations, and still hold a secure position; but, at the same time, as the collection has been made very recently, among them will be found many of the newer agents, which have only lately come into notice and yet are highly esteemed. As will be seen, the book is altogether a unique one, and while the author is careful to state that he has no admiration for physicians who blindly follow printed formulæ, he rightly judges that the study of the remedies and combinations found most valuable in our hospitals cannot fail to give many hints and suggestions in private practice. The demand for the work should be a large one.

LEONARD'S PHYSICIAN'S POCKET DAY-BOOK. Bound in Red Morocco, with Flap. Pocket and Pencil Loop. Price, Postpaid, $1.00. Published Annually by the *Illustrated Medical Journal* Co., Detroit, Mich.

This popular day-book is now in its ninth year of publication. It is good for thirteen months, from the first of any month that it may be begun, and accommodates daily charges for fifty patients, besides having cash department, and complete obstetric records. There are also columns for the diagnosis of the case, or for brief record of the treatment adopted, following each name space. Name of patient needs to be written but three times in a month. The book is seven and one-half inches in length, and is three and one-half inches wide, so that it will carry bill-heads or currency bills without folding. It is bound in flexible covers, and weighs but five ounces, so that it is easily carried in the pocket. A copy of the *Illustrated Medical Journal*, for one year, or of the paper edition of Leonard's Dose-Book, it is announced, will be sent free on all orders sent to the publishers, as above named.

THE MEDICAL PRESS OF WESTERN NEW YORK. Vol. I. No. 1. November, 1885. Buffalo, N. Y. Pp. 52.

This is a monthly journal, to be devoted to the interests of the profession in Western New York and vicinity, and conducted by the "Medical Press Association." Of the making of new medical journals there is certainly no end; but the one under consideration aims at a high grade of excellence. It is edited by Dr. Rowell Park, assisted by Drs. M. D. Mann, of Buffalo, Ely Van de Warker, of Syracuse, and W. J. Herriman, of Rochester, all of whom are gentlemen of ability and reputation. The journal is well printed and tastefully gotten up, and the subscription price is $2.00 a year.

HEALTH STATISTICS OF WOMEN COLLEGE GRADUATES. Report of a Special Committee of the Association of Collegiate Alumnæ, Annie G. Howes Chairman; Together with Statistical Tables Collected by the Massachusetts Bureau of Statistics of Labor. Boston: 1885. Pp. 78.

The conclusion is arrived at from the facts presented in this pamphlet, that the female graduates of our colleges and universities do not seem to show, as the result of their college studies and duties, any marked difference in general health from the average health likely to be reported by an equal number of women engaged in other kinds of work, or, in fact, of women generally, without regard to occupation followed.

BOOKS AND PAMPHLETS RECEIVED.

"A Complete Pronouncing Medical Dictionary." By Joseph Thomas, M.D., LL.D. Philadelphia: J. B. Lippincott Company.

"The Science and Art of Midwifery." By William Thompson Lusk, A.M., M.D. Third Edition. New York: D. Appleton & Company.

"A Practical Treatise on the Diseases of Children." By Alfred Vogel, M.D. Translated and Edited by H. Raphall, M D. Third American from the Eighth German Edition. Revised and Enlarged. New York: D. Appleton & Company.

"Practical Surgery." By J. Ewing Mears, M.D. Philadelphia: P. Blakiston, Son & Co.

"The Diseases of Sedentary and Advanced Life." By J. Milner Fothergill, M.D. New York: D. Appleton & Company.

"Second Report of the State Board of Health of the State of Tennessee, October, 1880—December, 1884." Published by authority. Nashville: 1885.

"The Report of the Board of Health of the State of Alabama, for the Years 1883 and 1884." Montgomery, Ala., 1885.

"Transactions of the Louisiana State Medical Society at its Seventh Annual Session, New Orleans, 1885."

"A Text-book of Nursing." Compiled by Clara S. Weeks. New York: D. Appleton & Co.

"Rationalism in Medical Treatment." By William Thornton. Boston: Published by the Author.

"Milk Analysis and Infant Feeding." By Arthur V. Meigs, M.D. Philadelphia: P. Blakiston, Son & Co.

"Moisture and Dryness; or, the Analysis of Atmospheric Humidities in the United States." By Charles Denison, A.M., M.D., Chicago.

"Tracts on Massage." Translated from the German of Reibmayer, with Notes, by Benjamin Lee, A.M., M.D., Ph.D. No. II., "The Physiological Effects of Massage." Philadelphia.

"Clinical Notes on the Local Treatment of Disease: a Record of Practical Therapeutics." Edited and Published by Charles L. Mitchell, M.D. Philadelphia. Vol. I., No. 1, October, 1885.

"Report of Proceedings of the Illinois State Board of Health." Quarterly Meeting, Springfield, October 29, 30, 1885.

"Tennessee State Board of Health Bulletin, for the Month Ending September 30, 1885." Nashville.

"American Public Health Association. Programme of Thirteenth Annual Meeting, Washington, D. C., December 8, 9, 10, 11, 1885."

"Mission and Methods of Medicine." An Address Delivered by R. H.

Day, M.D., President of the Louisiana State Medical Society, at Its Seventh Annual Session, New Orleans, April 21, 1885.

"Seventieth Annual Report of the President of the Inebriates' Home, Fort Hamilton, N. Y., for the Year 1884."

"Duty of the State Towards the Medical Profession." An Address Delivered Before the Medical Alumni Association of the University of Michigan, June 24, 1885.

"Abnormal Positions of the Head. What Do They Indicate?" By Edward Buck, A.M., M.D. Reprinted from the *Medical and Surgical Reporter*, Philadelphia.

"The Surgical Treatment of Cysts of the Pancreas." By N. Senn, M.D. Reprinted from the *Journal of the American Medical Association.*

"The Mechanical Treatment of Talipes Calcaneous." By A. B. Judson, M.D. Reprinted from the *Medical Record.*

"An Act to Establish a State Board of Health." (Pennsylvania.)

"The External Therapeutics of Pulmonary Consumption." (Third Paper.) By Thomas J. Mays, M.D. Reprinted from the *Medical News.*

"Erysipelas of the Larynx and Pharynx." By D. Bryson Delavan, M.D. Reprinted from the New York *Medical Journal.*

"An Address on Cholera Infantum." By Wm. Perry Watson, A. M., M.D. Reprinted from the *Archives of Pediatrics.*

"The Therapeutics of High Temperatures in Young Children." By Wm. Perry Watson, A.M., M.D. Reprinted from the *Archives of Pediatrics.*

"Minutes of the Memorial Meeting of the Medical Society of South Carolina, in Memory of the Late William T. Wragg, M.D., Held June 23, 1885, Together with the Memorial of the Board of Trustees of the Roper Fund." Charleston.

"Address of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania to the People of Pennsylvania." Harrisburgh.

"On the Tests for Muscular Asthenopia and on Insufficiency of the External Recti Muscles." By Henry D. Noyes, M.D. Reprinted from the Transactions of the Eighth Session of the International Medical Congress. Copenhagen, 1884.

"Gelsemium (semper virens)." By Luther B. Creath, M.D. Reprinted from the Transactions of the Texas State Medical Association, 1885.

"Medical Education." A Paper Read Before the Philadelphia County Medical Society. By Henry Leffmann, M.D., D.D.S. Reprinted from the Proceedings of the Society.

"An Essay on the Causes of Disease, Embodying a New Theory, with a Treatise on Dysentery, Congestion, and Malaria." By R. H. Robertson, M.D., Plant City, Florida.

"The Limitations of the Diagnosis of Malaria." By E. Darwin Hudson, Jr., M.D. Reprinted from the *Medical Record.*

"The Physical Examination of Weak Chests, and Differential Diagnosis of the Several Forms of Early Phthisis." By E. Darwin Hudson, Jr., M.D. Reprinted from the *Medical Record.*

"Some of the Diagnostic Relations of the Indigestions." By E. Darwin Hudson, Jr., M.D. Reprinted from the *Physician and Pharmacist.*

"A New Bandage for Fixation of the Humerus and Shoulder-Girdle." By Charles W. Dulles, M.D. Reprinted from the *Medical News*, Philadelphia.

"Observations Upon the Mutual Relations of the Medical Profession and the State." An Address by Donald Maclean, M.D., President Michigan State Medical Society. Published by Order of the Society.

"Kentucky School of Medicine. Tenth Annual Announcement." Louisville.

"Annual Announcement of the New York Polyclinic, Session of 1885–86."

"Eighteenth Annual Announcement of the Boston Dental College, 1885–86."

"Typhoid Fever. With Special Reference to the Recent Epidemic in Richmond." By M. A. Rust, M.D. Reprinted from the Transactions of the Medical Society of Virginia, 1884.

"Evolution of Asepticism (Two Papers)." By M. A. Rust, M.D. Reprinted from the Virginia *Medical Monthly.*

MISCELLANEOUS.

THE DISINFECTION OF RAGS. AN EXPERIMENT WITH THE SULPHUR DIOXIDE PROCESS.—An experiment was recently made in this city in the presence of Prof. C. F. Chandler, Dr. J. S. Billings, and a number of other experts, as well as representatives of the health boards of New York, Brooklyn, and Boston, of a new process for disinfecting rags, which is called the vacuum sulphur process. It consists in exhausting the air from the rags, and forcing sulphur dioxide into its place. One of the New York dailies gives the following account of the *modus operandi.*

The experiment was conducted by Drs. Biggs and Grauer, of the Carnegie Laboratory, and they brought with them a number of little vials containing four species of disease germs, including Asiatic cholera bacilli. A large bale of rags, 4 by 5 by 3 feet in dimension, was placed in a larger reservoir, and directly through its centre was driven an iron pipe. The lower end was plugged and on the upper a cap was screwed. The middle of the pipe, which was in contact with the centre of the bale, was perforated over a space a foot in length. The disease germs were placed in the pipe, and the cap was screwed on. Then the lid or cover to the reservoir was bolted on air-tight and the air was pumped out. Finally the sulphur dioxide was forced into the reservoir, to take the place of the air, under a pressure of twenty-five pounds to the square inch. It was allowed to remain for a short time and was then pumped out again for future use. The germs were taken out, presumably dead. They were taken to the Carnegie Laboratory for preservation, as a day or so will have expired before it can be determined whether they are actually dead. Mr. Pollock claims that his preparation will in no wise injure the finest quality of goods, and that in this respect it differs from the steam process. By extracting the heat from sulphur dioxide he produced a volatile liquid which he placed on his black coat sleeve. It was of a white, frothy appearance for a few minutes, and then it disappeared, leaving no trace. The process is as economical, it is said, as the steam process, and attention was called to the fact that it would be just the thing for disinfecting luggage.

A HORRIFIED AMERICAN MINISTER.—It is not part of an American Minister's duty to act as social sponsor for ambitious nobodies, or to introduce at Court people who do not know how to behave when they get there. A once too easily persuaded Minister yielded to the teasing of one of his countrywomen and presented her at the Court of one of the Contenential nations. The Queen received her most kindly, but, says the narrator of the anecdote, judge of the Minister's horror when, to her Majesty's kindly welcome, the American woman replied: "I really feel as if I had known you a long time; you know we go to the same chiropodist."—*The London Figaro.*

A PECULIAR STYLE OF DRESS.—In the last days of the French Revolution, but when the civil war in La Vendée and Bretagne was still going on, a young Englishman who was serving in the royalist ranks happened to be present at a military ball given by some of the Vendéan leaders in honor of a recent victory over the "Blues," (republican soldiers). On entering the ballroom he was struck with the appearance of a very handsome young Vendéan officer near the door, to whom he begged to be presented. This was done forthwith, his introducer saying to him in an undertone: "Look well at M. de R.'s vest and pantaloons." The Englishman did so without being much enlightened thereby, the mysterious garments being only remarkable for their hue—a light cream color—and two small red spots on one side of the vest.

"Monsieur is criticizing my dress, I see," observed the Frenchman; "would he care to hear its history?" "There is nothing I should like better," answered the Englishman, already suspecting from the speaker's look and the sinister emphasis of his tone that the history in question must be one of no common interest. "You must know, then," rejoined the Vendean, "that I had an only brother, a year younger than myself, to whom I was devotedly attached. Unluckily, we were separated during the campaign of 1792, and I had heard nothing from him for some weeks, when one day I found in a village from which we had just driven the Blues a dead man tied to a tree with a paper on his breast inscribed 'This rebel has been shot by order of Claude Flageolet, Captain in the Seventh Regiment of Light Infantry.' It was my brother. Two bullets had pierced his heart, the marks of which (pointing to the two mysterious red spots on his vest) I have taken care to preserve, as you see."

"Good heavens!" cried the Englishman, starting back as if he had trodden on a viper, "do you mean to tell me that this vest is made out of your brother's skin?"

"Precisely so," answered the bereaved brother, with admirable composure.

"And the—the pantaloons?" faltered the horrorstricken Briton.

"Ah, the pantaloons are another matter. They're made of the skin of Claude Flageolet, Captain in the Seventh Regiment of Light Infantry."—*Alexandre Dumas, père.*

A Lively Skull.—A French officer has been enlivening his comrades during the dull season with a veritable narrative of an unpleasant adventure which he encountered during his Crimean campaign thirty years ago. Riding one night with a few men along the shore, his attention was attracted by a skull shining white in the moonbeams. It was so perfect, and the teeth so brilliant, that he was seized with the desire to possess it, and, jumping from his horse, he caught it up, and swinging it to his saddle, galloped off while the bullets of the Russian sentries whizzed round his ears. As the small party returned to the bivouac they passed a redoubt occupied by French marines, who invited them to partake of a rough and ready supper. Captain B., the officer who tells the story, drew his prize from under his cloak and placed it on the table. Sailors are proverbially superstitious, and there was a very deep murmur of disapproval, while gloomy looks replaced the former boisterous mirth. The situation was not a lively one. A rough hut, lighted by one feeble candle, whose flickering light brought the deep shadows, and without, a weird silence, only broken by the murmuring of the wind. The host, the leader of the marines, tried to rally the spirits of the party. Raising his glass, he cried, "Come, now, let us drink to the living and the dead."

Scarcely were the words uttered than the skull, to which all eyes were directed, made a sudden visible movement and gnashed its teeth with unmistakable energy! The effect was indiscribable.

The panic-stricken spectators made a sudden retreat, and one of the sailors who was standing by the table in his hasty movement overthrew and extinguished the solitary light. The darkness was complete, and through it was heard the strange sound of the moving skull rattling against the wood and the intermittent gnashing of the teeth.

Captain B., who is reckoned among the bravest of the French officers, declares he never felt any sensation like the terrors he then experienced.

"Let us relight the candle," said the officer of marines at last in a stifled voice. Somebody produced a match and its glimmer showed a group of pallid and agitated countenances. The sinister too-too of the teeth still went on. The death's head had rolled from the table to the floor and was marching about with irregular action.

Captain B., rousing himself by a violent mental effort, advanced and seized the gruesome visitant, and, turning it over, discovered two large crabs. The mystery was explained. The crustaceans had taken up their locality in this convenient resting place while the skull was the sport of the waves, and the soldier in his haste had never noticed that his trophy was tenanted.

"I assure you," cried Captain B., in concluding his narrative, "that I was by no means sorry to see my friends, the marines, carrying off for the improvement of their scanty larder these two erratic crabs, to whom I owe the most disagreeable five minutes of my life."

A Rare Brand of Port.—A leading druggist of Lansingburg received an order for a half gallon of port wine for an invalid Saturday. He chanced to be out of the special quality wanted, so he stepped into a neighboring grocer's and asked the clerk to put him up a half gallon of the best port wine. The order was filled, and the demijohn sent to the invalid. A half hour later the druggist was met by an indignant messenger from the invalid, who, placing the liquor on the counter, demanded, "What kind of stuff is that for a sick person?" The confused druggist hastily investigated, and found that the grocer's clerk had put up, instead of port wine, pork brine.—*Albany Journal.*

FASHIONABLE DEFORMITY.—In Mr. John Ashton's "Old Times: A Picture of Social Life at the End of the Eighteenth Century," recently published by Scribner & Welford, it is stated that in 1791 the fashion which is now called "baby waists" became so extreme that the following parody was sung upon the popular melody beginning, "Shepherds, I have lost my love Have you seen My Anna?"

"Shepherds, I have lost my waist;
Have you seen my body?
Sacrificed to modern taste,
I'm quite a hoddy-doddy.
For fashion I that part forsook
Where sages place the belly;
'Tis gone, and I have not a nook
For cheese, cake, tart, or jelly.

"Never shall I see it more
Till, common sense returning,
My body to my legs restore;
Then I shall cease from mourning.
Folly and fashion do prevail
To such extremes among the fair,
A woman's only top and tail;
The body's banished, God knows where."

OLD ENOUGH TO MARRY.—Dispatch from Washington, Ga.—The marriage of David Derricott and Sophie Calloway, which took place here to-day, is remarkable for the fact that the groom is 98 years of age and the bride 63. Neither had been married before.

A GOOD OLD AGE.—The latest claimants for the honor of being the oldest twins are Mrs. Catharine Rider and Mrs. Betsy Brazie, of Schoharie County, N. Y., who celebrated their ninety-fourth birthday last month.—*Rochester Democrat.*

MEDICAL NEWS.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.—The quarterly meeting of this association was held at Bethlem Hospital on Tuesday, November 17, Dr. H. Raynor presiding in the absence of Doctor Eames, the President for the year. Mr. Conolly Norman read a paper "On Some Points in Irish Lunacy Law," in which he explained the different mode of procedure which existed in Ireland in regard to the admission and discharge of pauper lunatics, and urged the great desirability of assimilating the lunacy laws throughout the United Kingdom. Dr. Hack Tuke read a paper on "A Recent Visit to Gheel." In the discussion which followed, Doctor Savage and Dr. Prichard Davies, who had also visited Gheel, gave their experience on the subject, concurring with Dr. Hack Tuke's statements as to the somewhat dull appearance of the place, and the moral dangers and difficulties involved in the supervision of so large an area, but, at the same time, fully recognizing the care and kindliness of the authorities.—*British Medical Journal.*

GUY'S HOSPITAL MEDICAL SCHOOL.—The students' refreshment-room at this school has been completely redecorated, and now presents a most pleasing effect. The walls have been papered, and around them a new wooden dado has been placed. This change will render Guy's refreshment-room doubly attractive to the students, with whom it has always been very popular. The authorities have found that in many ways it is a great convenience and advantage to the students to be able to obtain their meals within the building.—*Lancet.*

PRINCE CHARLES OF BAVARIA AND M. PASTEUR.—Prince Charles Theodore of Bavaria, who is known to have entirely devoted himself to medicine, is expected in Paris to initiate himself into the recent discoveries of M. Pasteur for the treatment of hydrophobia.

THE SIMS MEMORIAL FUND.—The cash subscriptions to the Sims Memorial Fund, received by the *Medical Record*, amount to $8,166.34, from which is deducted $406.43 for stationery, printing, postage, telegraphing, and commissions for collection. The balance, which remains on deposit with the United States Trust Company, and is subject to the order of the committee, is $7,759.91. This amount is considered sufficient to erect a suitable bronze statue to Doctor Sims, and the necessary steps to that end will be taken by the committee without further delay. *New York Medical Record.*

THE WILLIAM F. JENKS' PRIZE.—The widow of Dr. William F. Jenks has presented, as a memorial of her husband, to the College of Physicians, of Philadelphia, in trust, $5,000, the interest of which is to be triennially awarded for the best essay offered in competition upon some subject connected with obstetrics and gynæcology. The prize is to be known as the William F. Jenks' Prize.—*Medical News.*

CHARITABLE BEQUESTS.—The sum of a quarter of a million dollars, the bequest of the late John P. Howard, of Burlington, Vt., is to be divided equally among the following institutions: New York Juvenile Asylum, St. Luke's Hospital, New York Orphan Asylum, Children's Aid Society, New York Society for the Relief of the Ruptured and Crippled, and two charitable institutions in his native city.—*Weekly Medical Review.*

NEW YORK STATE BOARD OF HEALTH.—The Board held its quarterly meeting in this city, November 16. The report of the Executive Committee showed that the expenses for the year ending September 30, 1885, were $25,719.55. The work of bringing up arrearages in vital statistics has been satisfactorily continued throughout the year, and 51,800 certificates of births, deaths, and marriages have been thereby recorded. The Secretary reported what means had been adopted by the Board to ward off the introduction of small-pox from Canada. The most of its efforts have been in the direction of calling into active existence the local Boards of Health along the northern frontier of the State, and insisting upon the immediate vaccination and revaccination of all unprotected persons at all exposed points within their jurisdiction. So successful have been the measures adopted that small-pox has been reported in only eight localities of the State outside the cities of New York, Brooklyn, Yonkers, and Albany, which are by law exempt from the control of the State Board. Except in one case, the disease did not spread in any of the localities referred to, and then was communicated to a nurse who had not been protected against its contagion, and to no one else. The Board, as an additional means of protection, availed itself of the aid offered by the National Government through its Marine Hospital Service, and national inspectors have been placed along the frontier to inspect trains and other public conveyences coming from Canada. Doctor Austin, of the Marine Hospital Service, has had charge of the undertaking, in consultation with the State authorities, and now there is a cordon of inspectors at all exposed points between Canada and the United States from Montreal to Niagara Falls.

DEATH OF AN AMERICAN MISSIONARY FROM CHOLERA.—A dispatch from San Francisco, dated November 28, states that the Rev. John Butler, of the American Presbyterian Mission at Ningpo, Japan, and his eldest son died of cholera on October 11.

DECAPITATED BY HANGING.—At the hanging of Robert Goodale, a wife-murderer, at Norwich, England, on the 30th of November, the head was completely severed from the body by the rope. The vertebral column was found to be smaller than usual, and no blame was attached to the hangman. A fifteen-stone weight was used, and the drop was six feet.

GEN. ALEXANDER SHALER, President of the New York Board of Health, has been held in $10,000 bonds, on a charge of bribery in selecting armory sites for city militia regiments.

DEATH OF DOCTOR KEYT.—Dr. Alonzo T. Keyt, an eminent physician, of Cincinnati, died at his home in that city November 9, in the fifty-ninth year of his age. He was the inventer of the cardio-sphygmograph which bears his name, an instrument for recording simultaneously the beating of the heart and pulse.

DR. THOMAS ADDIS EMMET has been elected an Honorary Fellow of the Academy of Medicine in Ireland.

THE ERIE COUNTY BOARD OF EXAMINERS IN MIDWIFERY, which held its first meeting October 6, 1885, has examined about forty applicants, of whom sixty per cent. have been admitted to practice. The *Buffalo Medical and Surgical Journal* says of the work of the Board, under the provisions of the new act: "It is hoped this will lead to much good, and correct many abuses which existed before. This is the first law of this kind in operation in this State, and the first in the United States to take such decided steps in the regulation of the practice of midwifery."

THE BUFFALO CREMATORIUM.—The *Medical Press of Western New York*, for December, publishes a representation, with ground plan, of the handsome crematory now in process of erection in that city.

VICE-PRESIDENT HENDRICKS' DEATH.—Dr. W. B. Fletcher, at present superintendent of the insane asylum, at Indianapolis, but formerly one of Mr.

Hendricks' physicians, is reported as saying, concerning the cause of his death: "I have no doubt that an autopsy would reveal a clot in the brain and dilatation of the left ventricle of the heart with thickening of the aortic valves. I base this opinion on careful observation of Mr. Hendricks, in my many meetings with him, during the last twenty years. He had a quick, hard pulse, not very full, as if the circulation were somewhat obstructed. The pupils were often contracted, and were generally a little under the normal size, indicating diminution of arterial circulation."

A FEVER STRICKEN VESSEL.—The mate of the schooner Joseph Farnell, which arrived at this port from Aspinwall about the middle of November, reported that during the voyage the captain and three of the crew had died of Chagres fever, and that at one time all hands on board were sick with the disease.

SENATOR STANFORD'S GENEROUS GIFT.—Senator Leland Stanford has bestowed lands and funds to the amount of thirty million dollars for the establishment of a great university near San Francisco.

IOWANS OF GREAT AGE.—The forthcoming census report of Iowa contains the names of thirteen individuals 101 years old, three 102, one 103, two 104, one 105, one 106, one 107, and one 108. Jacob Heike, of Grundy County, is said to be 121 years old, and Mary Brennan, of Story County, 112.

THE NEW JERSEY SANITARY ASSOCIATION held its eleventh annual meeting at Trenton, November 19 and 20. The address of the President, Dr. Robert Wescott, of Elizabeth, was on the subject, "Physicians as Sanitarians."

CAPTAIN COOK'S RECOVERY.—Captain Robert J. Cook, of Philadelphia, the former famous stroke oar of Yale, who was trephined after receiving apparently fatal injuries at the hands of a negro who assaulted him with a hatchet in October, has now entirely recovered.

FRACTURED A RIB IN COUGHING.—*The Philadelphia Record* reports that a married lady suffering from whooping cough recently fractured one of her ribs during a severe paroxysm of coughing.

AN UNJUST DECISION.—Dr. J. H. Billings, U. S. A., having visited Europe in 1881 under a special order from the War Department, the Second Controller of the Treasury at Washington has now disallowed in the settlement of the accounts of Paymaster Smith, an item of $1,340.24, for his travelling expenses, and directs that the amount paid in this case shall be charged against Dr. Billings, in his pay account.

THE CREMATORY AT MOUNT OLIVET, LONG ISLAND, was satisfactorily tested November 10, 125 pounds of beef and bone being reduced to 2½ pounds of fine white ashes, and on December 4 the first human body was cremated there.

DEATH OF DR. WM. FROTHINGHAM.—Dr. William Frothingham, an eminent and highly esteemed practitioner of Washington Heights in this city, accidentally killed himself while cleaning a pistol, on the 19th of November.

FATAL POISONING BY COCOAINE.—At a meeting of the Medico-Legal Society, held November 18, Prof. R. Ogden Doremus reported a case of this kind. The patient was a woman in Kansas City, who was found unconscious and in a dying condition, by Dr. F. M. Thomas, a graduate of Bellevue Hospital Medical College. It was ascertained that this was the result of medicine which she had used for an aching tooth, and this he concluded to be hydrochlorate of cocoaine. All that was left of it in the bottle was sent to Dr. Doremus, and an examination had proved that such was the case. From the symptoms reported, and the analysis of the drug, the professor thought there could be no doubt that this was an instance of cocoaine poisoning.

ST. JOHN'S GUILD.—The annual meeting of St. John's Guild was held at the Society's rooms, in Clinton place, New York, in November, when the Secretary's report showed that its summer work began July 7 and closed September 8. During this period the floating hospital made thirty-five trips from this city to the Seaside Nursery, at Staten Island, and carried in all 26,280 persons—sick children and their mothers. Last year the number was something less than 22,000. At the Seaside Nursery the patients numbered 217 children, and 130 mothers, rather more than the number last year.

NEW YORK STATE MEDICAL ASSOCIATION.—At the annual meeting in this city in November the following officers were elected: President, Dr. E. M. Moore, Rochester; Vice-Presidents, according to districts, Dr. William Gillis of the first, Dr. H. Van Zandt, of the second, Dr. Frederick Hyde of the third, Dr. Desault Guernsey of the fifth; Council, members from different districts, Drs. E. M. Lyon, Ira H. Abell, Thomas Wilson, F. W. Ross, S. T. Clark, E. S. F. Arnold.

THE SMALL-POX IN MONTREAL.—Of late there has been a marked falling off in the number of cases. Up to the 10th of November, according to the report of the Board of Health, there were 2,641 deaths from the disease, of which no less than 2,404 were among French Canadians. On Dec. 4 there were six deaths in the city, and three in the outlying municipalities; which was the lowest death-rate of any day since the disease became epidemic.

SMALL-POX ON A STREET-CAR.—A conductor on one of the street-car lines of this city was recently discovered collecting fares in a car while the eruption of small-pox was actually out upon his person.

NEW YORK COUNTY MEDICAL ASSOCIATION.—At a meeting of this society, held at the Murray Hill Hotel, November 16, Dr. A. Flint read a paper on "Elements of Prognosis in Bright's Disease," and Dr. J. W. S. Gouley exhibited some very beautiful photographs of pathological specimens, taken while the specimens were immersed in water, after which Dr. E. G. Janeway presented the spleen and small intestine of a patient who died from typhoid fever three weeks after child-birth. Two months before her confinement, she had an attack of malarial fever, and, as a result of this, very marked pigmentation of the liver and spleen was found at the autopsy.

In the notice of the October meeting in the last number of the JOURNAL one or two typographical errors were inadvertently made, and a portion of it is therefore repeated here: "Dr. H. M. Biggs gave a demonstration of cultures of the micro-organisms of osteomyelitis, and the President, Dr. C. A. Leale, made some remarks, with the exhibition of a specimen under the microscope, upon nummulites from the foundation stone of Cleopatra's Needle in Central Park."

INOCULATION FOR YELLOW FEVER.—The following letter from Doctor Gaston, inclosing one from Doctor Freire, of Rio de Janeiro, has been received by Doctor Holt, President of the Louisiana State Board of Health:

ATLANTA, Ga., November 13, 1885.

DR. JOSEPH HOLT, President of the Louisiana State Board of Health.

DEAR SIR: Having observed your very efficient agency in providing against the introduction of disease into the city of New Orleans, I am prompted to present for your consideration, and through you for the deliberation of the municipal authorities of your city, a statement of facts connected with the observations of Dr. Domingos Freire upon preventive inoculation for yellow fever in the city of Rio de Janeiro, Brazil.

My interest in this subject springs from a long residence in that empire previous to the past year, and considerable acquaintance with the climatic conditions under which these experiments were undertaken, with strong convictions touching the difficulties encountered in that investigation among people skeptical of innovations.

Being impressed with the results obtained, I first addressed a note, on June 4, to Dr. J. S. Billings, in regard to the importance of verifying the prophylactic operation of this inoculation, for the benefit of such portions of the United States as are exposed to the inroads of yellow fever, but received no assurance from him that any measure could be carried out by the medical department, as there was no appropriation made by the United States Government for such an object.

I then addressed a communication to President Cleveland, with the indorsement of the Hon. Henry W. Hilliard, former Minister Plenipotentiary to the Empire of Brazil, which was referred to the Minister of State, to which an unfavorable reply was made on July 3, 1885, by Mr. W. Hunter, Second Assistant Secretary of State. Having in the meantime received the accompanying letter of Dr. Domingos Freire, with a volume of 630 pages, elucidating the practical application of this process, and embodying the recognition of its benefits by the Brazilian Government, I made a final appeal to the Surgeon General of the United States, to which a reply, dated September 24, 1885, states that "for lack of any appropriation to carry on an investigation" such as I had proposed, nothing could be done.

Observing that funds have been provided by the United States Government, recently, for sending Doctor Shakespeare to Spain, to study the means of preventing cholera, which has not yet invaded our country, it has seemed a fitting occasion to renew the effort to have provision made by our national authorities for a commission to proceed to Rio de Janeiro with a view to afford our Southern ports exemption from a scourge which is more certain in its annual visitations, and no less destructive at times, than the much dreaded cholera.

I append a translation of the letter above referred to, and will cheerfully forward to you, if desired, the elaborate work of Dr. Domingos Freire, which is written in the French language, that is doubtless familiar to you, so that you may consult the highly important record of his successful application of this principle of prevention.

I am, very respectfully yours,
J. MCF. GASTON, M.D.

RIO DE JANIERO, August 5, 1885.

DEAR SIR: In answer to your postal card of the 28th of June, I take pleasure in forwarding you a copy of the work I have lately published, containing in a condensed form all the researches I have made on yellow fever.

The medical commission, which it may please the government of your country to send, with a view to studying the inoculating process, will be welcomed; and I hope that on its return to the United States it will carry the conviction that suffering humanity shall find in my discovery the means of preventing that terrible scourge, yellow fever.

I avail myself of this occasion to inform you that I have this year performed nearly five thousand inoculations, the result of which proved an absolute success, for none of those who were inoculated died, whereas over four hundred persons who were not inoculated have already succumbed to this disease. The inoculated persons dwelt in the same infected quarter, and a great number inhabited the very houses wherein death took place. A large number of foreigners, lately arrived, have been inoculated, also several hundred children, who are no less subject than foreigners.

Inoculation is effected by hypodermic injections, one gramme for adults, and from one fourth to a half gramme, according to age, for children. The region selected for the insertion of the liquid is the deltoid. The symptoms following inoculation are those which characterize the prodromata of the disease, frontal and intra-orbicular pain in the head, lying down, slight febrile disturbance, sometimes nausea and even vomiting, pain in the epigastric region, with weakness, etc. The phenomena last but two or three days, and require no medication.

I sincerely hope that your government may acquiesce in the application of this prophylactic measure, the efficacy of which I am in a position to warrant.

Accept, Doctor Gaston, the sincere expression of my esteem and consideration.

DOMINGOS FREIRE, M.D.

The following letters have also been published on the subject:

CONSULATE OF FRANCE,
New Orleans, November 20, 1885.

JOSEPH HOLT, M.D., President of the Louisiana State Board of Health,
New Orleans.

DEAR SIR: Having read with great interest the letter of Dr. Domingos Freire, published in *Times-Democrat* and *Picayune* of November 18, and impressed with the conviction that the yellow fever problem involves the destiny of the Southern States; that the liberation of New Orleans and the Valley of the Mississippi from this scourge will insure the industrial and commercial prosperity, particularly of this city, to an extent exceeding the highest expectations of the people, I take pleasure in transmitting herewith a letter from M. D. Tabois, Secretary of the Hôpital Central de Panama, and a small volume entitled "Memoire sur l'Inoculation Contre la Fevre Jaune au Moyen de la Methode Carmona par le Dr. Henri de Meyrignac, Officier d'Académie."

Your views as to the urgent necessity of a commission to be sent at the earliest practicable moment for the purpose of a thorough investigation of this vital question of the preventive treatment of yellow fever by inoculation present themselves to my mind as essentially correct.

There is the strongest evidence in favor of the truth of the declaration of these gentlemen of Panama and Rio de Janeiro, and no delay should be allowed in verifying a declared fact, which, if proven to be so, at once solves the problem, saving the lives of countless thousands, together with the industry and wealth of a people.

I remain yours, respectfully,
JULES BOENFUE,
Acting French Consul.

The following letter on the subject was received from the Secretary of the Surgical Bureau of the Panama Interoceanic Ship Canal Company:

OFFICE SURGEON GENERAL,
Health Department
Universal Interoceanic Canal Company,
Panama, November 4, 1885.

TO THE HONORABLE FRENCH CONSUL, New Orleans, La.

DEAR SIR: I have the pleasure of forwarding to you by this mail two copies of the work on "l'Inoculation de la Fevre Jaune" by Dr. H. de Meyrignac, Physician in Chief of the Hôpital Central, Panama, where I occupy the position of Secretary.

I have no doubt that this subject is vastly interesting to the population of New Orleans, where this disease is so much feared during the heated term. I also ask of you to transmit this work to persons interested, and to health officers and sanitarians, and to the press for publication. I would add that you will observe by the list of inoculated persons at Panama that I was the first on whom the experiment was tried, and I will state that since that day I have always enjoyed perfect health.

I would place myself entirely at the service of any party desiring information, which I will cheerfully furnish.

I have the honor to remain, yours respectfully,
D. TABOIS,
Secretary,

EXPERIMENTAL YELLOW FEVER.—Dr. Carlos Finlay, of Havana, has published the results of several experiments he has made on the inoculability of yellow fever. He performed the operation, or rather got it performed for him by mosquitoes, which he caused first to sting a patient suffering from yellow fever and shortly afterwards a healthy person who was to be (with his own consent, of course) the subject of the experiment. He found that the disease was only inoculable from the third to the sixth day. When two mosquitoes were employed, so that a double dose was given, the symptoms of the experimental disease were somewhat more severe than when only a single mosquito was used. Of eleven cases of inoculation, six were efficacious, one doubtful, and four negative. The period of incubation varied from five to fourteen days; the symptoms consisted of headache, pyrexia, injection, with sometimes an icteric tint of the conjunctiva, and in some cases albuminuria. The fever lasted, as in the ordinary form, from five to twenty-one days. The author believes that this method of producing artificial yellow fever will ultimately be found very valuable as a prophylactic against the natural and dangerous form of the disease.—*Lancet.*

DEATH FROM YELLOW FEVER.—New Orleans, Nov. 27.—What appears to be an authentic death from yellow fever occurred this morning on board the

British steamship Venezuelian, lying at her wharf at the head of Thalia Street. The vessel is from Liverpool via Colon, with freight and passengers, and arrived on Wednesday. The purser, Ernest Richardson, went ashore at Colon, and was shortly afterward taken sick. He never went to bed, but continued about his duties until the ship landed, when medical aid was called and his disease diagnosed as yellow fever. He became rapidly worse and died at 2:30 o'clock this morning. The vessel was ordered to be thoroughly fumigated, and President Holt, of the Board of Health, sent the particulars of the case to all the health authorities of the country.

Other Cases of Yellow Fever.—A Spaniard who was fireman on the steamer Alps, of the Atlas line, died of yellow fever at the Chambers Street Hospital in this city, November 21, within two hours after reaching the hospital. The Alps passed Quarantine November 19, and was reported as having no sickness on board. The case was said to have developed after that date. The health authorities found no other case on board, and were unable to trace this one to its source, as the steamship had come from the West Indies, where the cargo was loaded at several ports. The man was removed to the hospital from a sailors' boarding house in Water Street. The case was promptly reported to the Board of Health, by whom the usual protective measures were taken.

Galveston, Texas, Nov. 24.—On the 11th inst. the British steamship, Woodbine, Clark master, arrived in the outer harbor in ballast from Kingston, Jamaica. Her captain told the Health Officer who boarded her that on the 9th inst., three days after leaving Kingston, one of his firemen had died of fever, and was buried at sea the same day. Captain Clark said the fireman began to complain the first day out from Kingston. He feared that the man had died of yellow fever. Dr. Blount, Quarantine Officer, placed the Woodbine in quarantine, where she remained until the 15th inst., when she was released by order of State Health Officer Swearingen, from Austin, who had been apprised of the death at sea. There being no further signs of fever on board the ship, she came in and berthed at the new wharf. Next day she began loading with cotton. On the 18th inst., two days after her arrival in port, another of the firemen complained of fever. The physician in attendance treated him for ordinary fever, but the patient growing no better, on Saturday last Capt. Clark concluded to call in the Health Officer. Accordingly on Sunday Dr. Blount and City Physician Cook proceeded to the steamer and thoroughly examined the sick man. No one knew of this examination until to-day, when it got noised abroad that both of these experienced physicians agreed that the patient was suffering from yellow fever and was in a precarious condition. As soon as these facts became known the vessel was unmoored and all communication with her prohibited. Owing to the low water in the bay the steamer could not reach the quarantine grounds until to-day, where she now lies with a yellow fever flag floating from her masthead.

Elmira Academy of Medicine.—At a meeting of the Academy held December 2, a paper on "Gall Stones" was read by Dr. E. A. Reilly, and Dr. H. Flood gave a review of a paper on albuminuria by Dr. Broderick, after which Dr. A. H. Baker read the report of a case of excision of the breast for cancer, and Dr. D. M. Spalding the report of one of hermaphrodism.

Liability for Damages for Reporting Cases of Contagious Dis-

EASE.—At a meeting of the Medical Society of the County of New York, held November 23, *Comitia Minora* recommended that the Society request Drs. A. E. M. and A. S. Purdy, defendants in the case of Brown *vs.* Purdy, to appeal, the jury having brought in a verdict of five hundred dollars damages, and also that the sum of five hundred dollars, if necessary, be appropriated to aid in the proceedings. The defendants reported what they believed to be a case of varioloid. The Health Board sent an inspector who saw the patient, and the Board ordered a removal to the Riverside (small-pox) Hospital. The plaintiff remained in the hospital a short time and was discharged, and subsequently brought suit for damages against the defendants, with the plea that she did not have varioloid. On motion by Dr. Agnew the recommendation was received, and recommitted to the Comitia, with the authority of the Society to act in the premises.—N. Y. *Medical Record.*

THE MEDICAL WORLD, of Philadelphia, has issued as a supplement an admirable chart, prepared by an eminent English authority, explaining the examination of the urine in various forms of disease.

THE MEDICAL BILL OF INDIANA.—Two elaborate opinions by Attorney General Hord have been published, in answer to certain questions propounded to him by the State Board of Health, in regard to the act regulating the practice of medicine in the State of Indiana. These will, no doubt, be of service to the profession in the preparation of necessary laws in their interest elsewhere.

THE ABUSE OF MEDICAL CHARITY.—On Friday evening, Nov. 20, a meeting which was largely attended by the medical profession and others interested in charitable work among the sick, was held at the Academy of Medicine in this city, under the auspices of the New York Charity Organization Society, for the purpose of considering the existing abuse and misapplication of medical charity. A committee composed of Messrs. John Harsen Rhoades, of the New York Eye and Ear Infirmary, chairman of the meeting, Hewlett Scudder, of the Demilt Dispensary, and A. B. Ansbacher, of the Mount Sinai Hospital, and of Drs. S. O. Vanderpoel, J. West Roosevelt, and J. H. Emerson, was appointed to confer with all the medical charities of the city and the Charity Organization Society, with power to call another meeting.

DEATH OF DR. GOURRIER.—Dr. Alfred Gourrier, a distinguished surgeon of the Confederate Army on the Staff of General Stephen D. Lee, was killed last month by a boiler explosion in Iberville Parish, Louisiana.

A CHICAGO PHYSICIAN INSANE FROM THE ABUSE OF COCOAINE.—Dr. Charles D. Bradley, a well-known physician of Chicago, has been declared of unsound mind; Drs. Wadsworth and Brower, who attended him, testifying that they believed him insane from the use of cocoaine and morphia. His wife and children, upon whom he has been experimenting recklessly with cococaine, are said to be in a precarious condition in consequence. The latest reports state, however, that Dr. Bradley is rapidly recovering under treatment.

DEATHS IN THE STATE OF NEW YORK DURING OCTOBER.—The New York State Board of Health reports as follows: The total reported mortality for the month is 5,680, the percentage of infant mortality being 32.6. The ratio per 1,000 from all zymotic diseases to the total mortality is 204.22; from typhoid fever, 26.59; from diarrhœal diseases, 57.04; and from croup and diphtheria, 75.53. From consumption the ratio per 1,000 is 163.20, and from acute respiratory diseases, 92.43. There were five deaths from small-pox during the month, three of which occurred in New York, one in Albany, and one in Essex County. For the month of September 400 delayed returns have been received, of which 110 were under five years of age.

THE WILLARD PARKER HOSPITAL.—The new Willard Parker Hospital, in East 16th St., New York, is now open for the reception and treatment of cases of contagious diseases. It is designed for the treatment of patients suffering from such diseases as scarlet fever and diphtheria, who cannot have proper isolation and care in their own homes.

AMERICAN PATIENTS TO BE SENT TO PASTEUR.—Six children in Newark, N. J., were bitten by a rabid dog December 2. On the following day Dr. O'Gorman of that city published a card advising the parents of the children to be sent to Paris to be treated by Pasteur, and calling for a public subscription for the transportation of those whose parents could not afford the expense. At the same time he cabled to Pasteur, asking if he would take charge of the cases if they were sent, and December 4, the latter cabled back his consent.. Accordingly, four of the children have now been sent under the charge of Dr. Frank S. Billings, who will make a special study of Pasteur's methods. The parents of the other two children refused to allow them to go.

THE CARNEGIE LABORATORY.—Mr. Andrew Carnegie, who generously offered to pay the expenses of the entire party sent to Pasteur, has just given $6,000 to the pathological laboratory founded by him at Bellevue Hospital Medical College for the purchase of additional scientific apparatus.

INTERNATIONAL CONGRESS—SPECIAL ANNOUNCEMENT.—The Executive Committee of the Ninth International Medical Congress, to be held in the city of Washington, D. C., commencing on the first Monday in September, 1887, having accepted under Rule 10 of the Committee on Preliminary Organization, the charge of the business of the Congress, hereby give notice to the members of the medical profession that they have been actively engaged upon, and have now nearly completed, the arrangements for this meeting; and they anticipate the hearty co-operation of the profession everywhere in developing this great scientific and humanitarian assembly.

By order of the Executive Committee.

HENRY H. SMITH, M.D., Philadelphia,
Chairman of Executive Committee.

NATHAN S. DAVIS, M.D., LL.D.,
Secretary-General of Ninth Int. Med. Congress.

Chicago, November 24, 1885.

PORTRAIT OF DR. GAILLARD.—A fine portrait of the late Dr. Gaillard will appear in the JOURNAL for February, 1886.

EDITORIALS.

THE JOURNAL DURING THE PAST YEAR AND IN THE FUTURE.—When in the early part of the present year the gifted editor and proprietor of this JOURNAL was called so suddenly away from his labors, the future prospects of the enterprise which he inaugurated, and had nurtured with such devoted care, seemed indeed shrouded with gloom and doubt; but the foundations which he had laid with years of unremitting toil proved to be deep and broad, and, thanks to the earnest and hearty support of a generous profession, who were not unappreciative of the laborious efforts which Professor Gaillard had for many long years been making in their behalf, the JOURNAL was enabled to pass successfully through this most trying season, and to look forward to a career of increasing prosperity and usefulness in the future.

The present editor has endeavored to maintain the high standard which his readers had a natural right to expect in this JOURNAL, and, without referring to the work that has been done in the various other departments, he cannot but feel a pardonable pride in reminding them for a moment of the long list of able papers which have appeared in that of Original Contributions since the beginning of the present year.

Among these, to allude to but a few of them in the order of their publication, and excluding articles published in the present issue, may be mentioned: The Treatment of Pulmonary Phthisis, by Prof. Austin Flint, of New York; Fungous Vegetations of the Lining Membrane of the Uterus, by Dr. Wm. Goodell, of Philadelphia, Professor of Gynæcology in the University of Pennsylvania; Two Cases of Successful Ligation of the Jugular Vein During Operations for the Removal of Tumors from the Neck, by Dr. Wm. A. Byrd, of Quincy, Ill., President of the Illinois State Medical Society; Pelvic Spina Bifida, by Prof. T. Gaillard Thomas, of New York; The Etiology of Acne, by Dr. L. Duncan Bulkley, the distinguished New York Dermatologist; Complete Laceration of the Perineum, Involving the Recto-Vaginal Septum, by Dr. A. B. Cook, formerly Professor of the Surgical Diseases of the Genito-Urinary Organs and Rectum in the University of Louisville; Circumcision a Cause of Reflex Irritation of the Genito-Urinary Organs, by Dr. Claudius H. Mastin, the Alabama Surgeon; Two Cases of Tait's Operation, by Dr. P. F. Chambers, Assistant Surgeon to the New York State Woman's Hospital; The Treatment of Ex-Ophthalmic Goitre, by Dr. A. D. Rockwell, the leading authority on Electro-Therapeutics in this country; Trichinosis, by Dr. Archer Atkinson, of Baltimore; Æsculapia as Revealed by Inscriptions, by Prof. A. C. Merriam, of Columbia College, recast especially for the JOURNAL from a learned lecture delivered by him, by invitation, before the New York Academy of Medicine; The Clamp Suture and the Range of Its Applicability, by Dr. Nathan Bozeman, Surgeon to the New York State Woman's Hospital; Kidney Colic and Renal Calculi, by Dr. W. H. Taylor, of Washington, D. C.; The Treatment of Urethral Stricture by Combining Internal and External Urethrotomy, by Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary, and Lecturer on Clinical Surgery in Victoria University, England; Some Points in the Surgery of the Hypertrophied Prostate, by Prof. J. W. S. Gouley, Surgeon to Bellevue Hospital, New York; The Causative Relation of Gonorrhœa to Renal and Cardiac Affections, by Dr. Wm. B. Hazard, Professor in the St. Louis College of Physicians and Surgeons; Excision of the Knee Joint for Chronic Disease, by Dr. Joseph D. Bryant, Professor of Anatomy and Clinical Surgery in Bellevue Hospital Medical College, and Surgeon-General of the

State of New York; Malaria and Quinine, by Dr. L. B. Anderson, Norfolk, Va.; Obscure Impediments of the Intestinal Canal, by Dr. J. McF. Gaston, Professor of Surgery in the Southern Medical College, Atlanta, Georgia; Advances in the Study of the Etiology of Disease, by Dr. Edward G. Janeway, Professor of Pathological Anatomy in Bellevue Hospital Medical College; the Epidemic of Malarial Fevers at Present Prevalent in Southwestern New England, by Dr. R. W. Griswold, Rocky Hill, Conn.; and Intussusception, by Dr. C. S. Wood, New York. This is certainly a list of papers and of contributors of which any medical periodical in the world might well be proud; and one special source of gratification in connection with it is the very wide extent of territory that is represented by the various authors. The JOURNAL is designed for the entire profession of America.

During the past year a new department has been commenced, that of Hospital Notes. Next year still another will be added, one devoted to Microscopy and Pathology, and this will be inaugurated by an original paper expressly prepared for it by Dr. Herman M. Biggs, of the Carnegie Laboratory, Bellevue Hospital Medical College, who has recently returned from an extended course of biological study in Germany. Among the contributions which will appear early in the next volume—the 42d of the journal—may be mentioned articles by Prof. Lewis A. Sayre, of New York; Prof. Wm. H. Pancoast, of the Jefferson Medical College, Philadelphia; Prof. A. B. Cook, of Louisville; Prof. Wm. A. Hammond, of New York; Prof. W. B. Hazard, of St. Louis; Dr. Wm. McCollom, of Brooklyn; Dr. Wm. Govan, of Stony Point, Rockland County, N. Y.; Dr. George S. King, of Washington; Dr. S. C. Carson, of Alabama, and Dr. A. Parker Champlin, of Bay St. Louis, Miss.; and it may be mentioned that arrangements are now being completed for the publication of a series of clinical lectures of great practical interest on Dermatology, by Dr. George H. Fox, Professor of Diseases of the Skin in the New York Post-Graduate Medical School and Hospital, and Clinical Professor of Diseases of the Skin in the College of Physicians and Surgeons, New York. The announcement is also made with great satisfaction that the able and interesting letters from Paris, by the accomplished Dr. Edward Warren-Bey, and the admirable translations of the most important articles appearing in the French medical journals, by Dr. H. McS. Gamble, of West Virginia, which have of late constituted such attractive features of the JOURNAL, will continue to appear regularly in the future. Our readers will perceive, therefore, that there are plenty of good things in store for them in the coming year. The first article in the January number will be a valuable paper on the treatment of lateral curvature of the spine, embodying all the latest results of his vast experience in this affection, by Prof. Sayre; and the many friends and admirers of the late editor will be pleased to hear that a fine portrait of Dr. Gaillard will appear in the February issue.

It is scarcely necessary to add that the JOURNAL will continue in the future, as it has in the past, a staunch supporter of the National Code of Ethics. Especially since the authoritative exposition of certain portions of the code which was made at the last meeting of the American Medical Association, it is difficult to see how any honorable physician with the highest welfare of the profession at heart could demand a more just and salutary definition, on the whole, of the ethical duties pertaining to all properly qualified practitioners of medicine than is set forth therein. The staff of collaborators will remain the same as heretofore, and in the editorial department the latest topics of scientific and general interest will always receive due comment and independent criticism. Hoping for a continuation of that earnest support and hearty co-operation which have hitherto aided him so greatly in his work, the editor begs, in conclusion, to offer to one and all his best Christmas wishes for health, happiness, and success. In the language of the town mouse of old to his country friend, he would say to each :

Dum licet, in rebus jucundis vive beatus.

THE REPORT OF THE ENGLISH CHOLERA COMMISSION.—The Report of the English Cholera Commission, consisting of Drs. Klein and Gibbes, has at last been made public, though the main conclusions arrived at were announced by Dr. Klein last spring before the Royal Medical and Chirurgical Society. In its comments on this report, however, the *Lancet* says: "Yet we venture to think that there will be found within the pages of the report many facts which received less prominence at the society than they deserved, and the case against Koch is stated with greater fulness."

The appearance of the report has been delayed for the reason that the Government was desirous that it should first be submitted to the examination of a committee of eminent and experienced medical men, and among those selected were Sir Joseph Fayrer and Sir Wm. Jenner, and Drs. W. Aitken, Burdon Sanderson and Timothy Lewis. The result has been the preparation of a memorandum by this committee, which now appears accompanying the report of the commission, and which gives the latter the weight of the confirmatory opinion of the distinguished authorities composing it. The memorandum points out that while the presence of comma bacilli, as first shown by Koch is acknowledged, there is direct conflict of evidence upon the three main propositions of Koch's argument—viz.: "1st. That the number of comma-shaped organisms in the intestinal tissues and contents is in proportion to the acuteness of the attack, and that these organisms generate within the body a ferment by which the system is poisoned. 2d. That they are not found under any conditions other than in connection with cholera; and 3d. That their presence in a tank which supplied certain cholera-affected villages in Calcutta with water was practically a proof of the causal connection between the organism and the disease." The general results of the inquiries in regard to the bacillus of Koch are thus summarized :

"1. That comma-shaped organisms are ordinarily present in the dejections of persons suffering from cholera.

"2. That they are not to be found in the blood nor in any of the tissues, including the mucosa of the small intestine, when the latter is examined in a fresh condition.

"3. That comma-shaped organisms of closely allied morphological appearances are ordinarily present in different parts of the alimentary tract in health; that they are developed to an unusual extent in some of the diseases characterized by hyper-secretion of the intestine ; and that there are grounds for assuming that, when any predominant form is observed, it is in great measure attributable to the nature of such secretion.

"4. That the comma-shaped bacilli ordinarily found in cholera do not induce that disease in the lower animals, and that there are no real grounds for assuming that they do so in man, whilst the circumstance that they have been found in tanks which contained the ordinary water-supply of adjacent villages unassociated with the presence of the disease goes to negative any such assumption."

The committee then remarks that "Drs. Klein and Gibbes have made a valuable contribution to our knowledge of the bacterial organisms associated with cholera, though the evidence hitherto adduced does not warrant the conclusion that any of them bear a causative relation to the disease."

"In point of fact," says the *Lancet*, "the verdict of the committee is, as regards Koch's case, one of 'not proven;' and although we might have wished that there had been something more positive to set in the place of the abandoned doctrine, we may at least congratulate the country that the Government of India are making arrangements for the continuous study of the subject under the direction of Dr. D. Cunningham."

In this country, as well as in Germany, whatever may be the opinion of the leading authorities of England, there are many original investigators and eminent teachers who are by no means willing as yet to consider the etiological importance of the comma bacillus as an "abandoned doctrine." Still, all will be disposed to agree with the closing remark of the *Lancet* on the subject, that the "great divergence of opinion and of observation, which the several inquiries into the relation of the comma bacillus to cholera have brought to light, serve at least to remind us of the complexity of the problems of that disease, and the difficulties that beset those who endeavor to solve them."

THE SECOND ANNUAL MEETING OF THE NEW YORK STATE MEDICAL ASSOCIATION.—The meeting of the New York State Association in this city last month brought together a large number of representative men from all parts of the State, and was marked by an enthusiasm for earnest work. There was certainly a vast amount of work to be done in carrying out the elaborate programme which had been arranged for it, and it may be safely stated that never before was so much accomplished at a meeting of a State medical society in the way of scientific communications and discussions. While the number of papers was so large, their general average was of quite a high order; but, perhaps, the principal criticism that could be made in regard to the meeting was, that there was too great a wealth of contributions—an *embarras de richesse.* The Council has no doubt done well, therefore, in formally announcing that next year, under no circumstances will the time of the meeting be allowed to extend over three days, and that during that time at least one evening shall be left entirely free. It is proposed also that no formal papers shall be read at the evening sessions, these being devoted exclusively to discussions—an arrangement which will probably add to the interest of the proceedings. The discussion on pneumonia on the first evening this year constituted a most attractive feature of the meeting, and a full report of it will be published in the next number of the JOURNAL. One remarkable point about this debate was, that such a large number of those taking part in it expressed their belief in the constitutional rather than the local and inflammatory origin of the disease. Ten, or even five years ago, there can be little doubt that the majority of these same speakers would have been unwilling to give their assent to this hypothesis, which goes to show how the doctrine that pneumonia is to be regarded in the light of an essential fever is gaining ground in the profession. While a number of recognized leaders of medical thought took part in this discussion, it was of special interest in bringing out several new men, who acquitted themselves well by devoting their attention closely to the points at issue, and aiming at conciseness of expression.

The meeting was an extremely harmonious one, and politics, which have so often proved the bane of such gatherings, were kept studiously in the background, so that valuable time was not lost in fruitless wrangles. The plan of organization of the Association, based, as it is, upon the principle of direct and individual representation, does away to a great extent with the temptation to chicanery or the formation of "combinations" or "deals." During the session the "code" was scarcely mentioned at all; but there were many references to the dignity of the profession. Thanks to the indefatigable energy of Dr. Gouley, the new library of the Association, which has been accommodated with commodious quarters in the Carnegie Laboratory Building; has already assumed extensive proportions, and great praise is also due to Dr. E. S. F. Arnold for his arduous and unselfish labor in arranging and cataloguing the collection of books and journals, among which are to be found many of rare value.

This year it has been decided that none of the papers shall be published before their appearance in the volume of transactions, and while this will naturally give additional interest to the latter, it will, of course, restrict their perusal to a much more limited circle of readers than if they first had reached the profession through the medical journals.

The selections for officers seem to have been eminently appropriate. The new President, Dr. Moore, is one of the most accomplished and best known physicians in the State, and his dignified and genial presence is always a welcome addition to any gathering of the profession, especially as his extensive reading and experience, not only as a surgeon, but in general practice, enable him to speak on almost any topic that may come up for discussion with discrimination and with great benefit to his hearers. Without disparagement to the other Vice-Presidents chosen, it may be said of Dr. Hyde that he affords a conspicuous example of a surgeon who, by his skill and eminent abilities, might have won the highest distinction in any of the great medical centres, preferring a comparatively secluded life in a quiet rural neighborhood to the triumphs and turmoil of a metropolitan career. His paper on strangulated hernia was acknowledged by all to be one of the ablest that was read during the session.

It is to be regretted that Professor Sayre's clinical demonstration of his treatment of Pott's disease and lateral curvature of the spine was set down for the fourth day of the meeting. By this time a large number of the Fellows had been obliged to leave the city, and the attendance was also somewhat affected by the fact that a misunderstanding had arisen in regard to the hour at which it was to take place. The demonstration was of the greatest possible attractiveness and practical value, and as Dr. Sayre had gone to much pains to secure the attendance of patients, many of whom came from a distance, the result was such a collection of interesting cases of spinal trouble as had probably never before been gathered at one clinic. One of the most striking of these was that of a man whom Dr. Sayre had found suffering from disease of the vertebræ in the home for incurables at Fordham, where he had been sent to end his miserable days as a hopeless paralytic, not only the use of his limbs but the control of the bladder and rectum having been completely lost. Yet this man is at the present time doing a full day's work at his trade as a stonecutter. On this occasion the lecturer answered, to the perfect satisfaction of everyone present, the objections which have been urged against the use of the plaster-of-Paris jacket, such as its weight and lack of permeability and cleanliness, while its various advantages over other forms of apparatus were conclusively demonstrated.

MR. WILLIAM ADAMS ON THE USE OF THE PLASTER-OF-PARIS JACKET IN LATERAL CURVATURE.—In connection with the remarks just made, it may be of interest to note a change that has recently taken place in the views of Mr. Adams, the distinguished orthopædic surgeon of London. In the second edition of his "Lectures on the Pathology and Treatment of Lateral and Other Forms of Curvature of the Spine," published by the Churchills in 1882, he says (page 272): "In the following remarks it is not intended to discuss the subject of angular curvature of the spine, the result of Pott's disease, but I may state, as a general result of my observation, that the advantages of the plaster-of-Paris jacket are most conspicuous in this class of cases, and that my experience has led me to confirm and indorse all that Professor Sayre has claimed for it—an opinion in which I believe the profession generally will agree. * * * But I refer only to the treatment of lateral curvature of the spine, and in this class of cases my own experience and observation have led me to differ as widely from my friend Doctor Sayre, with regard to the advantages of the plaster-of-Paris jacket, as I agree with him in the class of angular curvature." Further on he sums up as follows, (page 282): "For these reasons, then, I am decidedly opposed to the use of the plaster-of-Paris jacket in cases of lateral curvature of the spine, and believe it to be as useless and injurious, in this class of cases, as it is useful in cases of angular curvature, some of the disadvantages attending its use in lateral curvature, above mentioned, such as the immobility secured by it, and the firm support afforded to the spine, being positive advantages in this class of angular curvature."

Yet in the report of the proceedings of the Section on Surgery of the International Medical Congress, at Copenhagen, which has recently reached this country, we read that Mr. Adams, in the discussion of Dr. Sayre's demonstration before the section, "observed that the modifications in the plaster-of-Paris jacket Professor Sayre has recently introduced and exhibited to the meeting seem to have perfected the jacket as a mechanical support. It is not only very much lighter, but, being open in front, with lacing, it can be removed at pleasure for gymnastic exercises in cases of lateral curvature, so that it can well be applied in this class of cases, to which I considered it was not previously applicable."

PASTEUR'S PROCESS.—A dispatch from Paris, dated December 7, states that a girl who was bitten by a mad dog and subsequently inoculated by Pasteur has died of rabies, and that Pasteur explains that thirty-six days having elapsed before she was inoculated, the period of incubation had expired, so that the treatment was undertaken too late. It is scarcely probable that the distinguished investigator made use of the expression given in the press dispatch, since the period of incubation in hydrophobia is known in the majority of cases to be much longer than the time stated in this instance; but in case such inoculations should positively prove prophylactic of the disease under appropriate conditions, it will be highly desirable to determine, if possible, within what interval after exposure the process is protective. Whether, however, this can be fixed with certainty or not, it would seem to be advisable that an individual who had been exposed to the risk of the disease should be subjected to it as promptly as possible after having been bitten. In the case of the children who have recently been sent to Paris from Newark, N. J., an interval of nearly three weeks will probably have elapsed before they have been inoculated, the party having sailed just a week after they were bitten. The future history of these cases, taken in connection with that of the two children whose parents refused to allow them to be sent to Pasteur, will be watched with great interest by the scientific world.

THE REPORTING OF CONTAGIOUS DISEASES IN NEW YORK.—As will be seen by a reference to the News Department, two highly-respected practitioners of medicine in this city have been mulcted in the sum of five hundred dollars for performing their evident duty in accordance with the provisions of the law; and it may be taken for granted, in consequence, that in the future the number of cases of contagious disease reported to the Health Department will be relatively fewer in number than has hitherto been the case. It was therefore eminently fitting that the Academy of Medicine should have adopted the resolution introduced at its last meeting by Doctor Agnew that any judicial action which tends to prevent the early reporting of cases of contagious disease by medical practitioners is to be considered contrary to public policy and detrimental to public health.

THE CASE OF JOHN MCCULLOUGH.—From the history and symptoms which have from time to time been reported, there can be no possible doubt that the case of John McCullough, the tragedian, was a typical one of progressive paralysis of the insane, and the course of Dr. Engel, the physician in Philadelphia who took charge of the patient after his removal from the Bloomingdale Asylum in this city shortly before his death, cannot therefore be too strongly reprehended. Immediately after the change was made glowing reports began to be published daily in the newspapers throughout the country, how rapidly Mr. McCullough's condition was improving under the skillful treatment of this distinguished specialist under whose care he had been placed, and what a terrible mistake had been made in sending him to Bloomingdale, where the nature of his case had been entirely misunderstood, and where he had been growing steadily worse ever since his admission. Thus, on November 6, only two days before his death, his counsel and friend, Mr. Johnson, sent to the daily press a dispatch in which he said: "I shall not be surprised if John McCullough is restored to health. I visited him yesterday and found him much improved. He was stronger than before, and appeared to be mentally well. He recognized me and answered several questions I asked unhesitatingly. Dr. Hugo Engel, his physician, says that he has every reason to believe that he will continue to improve." In other dispatches it was stated positively that Dr. Engel was confident that he could cure him of his insanity.

It is well known that in all general paretics there are remissions, when there is an improvement in the condition, sometimes of quite a marked character' lasting for longer or shorter intervals of time, and especially are such remissions apt to occur when a decided change is made in the conditions by which the patient is surrounded. No doubt the course of treatment which Dr. Engel instituted also had something to do with the temporary improvement which was noted in this instance, but it also seems more than probable that this active treatment, in which it was stated that energetic massage and the use of strong electrical currents constituted a prominent feature, was to a considerable extent instrumental in hastening the fatal termination of the case.

FROM THE PUBLISHER TO THE SUBSCRIBERS.

Perhaps in the history of journalism no publisher has sustained exactly the relation to subscribers which was so unhappily thrust upon me in the month of February of this year, and as the December number of the JOURNAL goes to press, I cannot let the opportunity pass without thanking you earnestly and with deepest gratitude for your support of my effort, which must have appeared to many of you to be of most doubtful issue.

But, notwithstanding this, your support has been cordial, practical and most generous. You have extended to me your sympathy and your kind co-operation; you have by your encouragement assisted in achieving a result which would not have been possible without your faithful assistance. That I have been able to repay your confidence by giving you a journal of superior excellence is a fact which calls forth my sincere gratitude, and is due to the wise advice of the medical gentlemen who unhesitatingly selected Dr. Porter as the fittest person known to the profession to take up the editorial work which had been so suddenly relinquished by the editor whom you had all learned to love and to respect. That the work has been well done, I am assured by all, and I refer you to the editorial in this number, which will tell you what you can expect during the coming year.

The JOURNAL will always aim at the highest good of the profession; it will always speak the truth frankly and fearlessly; it will represent the latest thought of the medical world, and chronicle every fact of importance therein. It will give you more lengthy and exhaustive papers than any other journal can publish, because it is the largest medical monthly in the world.

It will give you the latest news and freshest comment on medical topics, and you will give it, I trust, the same confidence, not blindly any more, but with the certainty of its not being misplaced, which you so generously extended to me when you first knew that I needed it. And will you not give it also the material support which has for twenty years been its only capital?

In conclusion, let me offer you all my hearty wishes for a happy Christmas, and in looking back upon the past year may you all look back upon work well done and trusts well fulfilled.

END OF VOL. XLI.

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